Service Manual

ORDER NO.
ARP3522

FLAT SCREEN TV
KRP-600A

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
KRP-600A	European model	AC 220 V to 240 V	
KRP-600A	Chinese model	AC 220 V to 240 V	

This product is component of system.

<European model>

Component	System	Service Manual	Remarks
FLAT SCREEN TV	KRP-600A	ARP3522	This manual
PLASMA DISPLAY	KRP-600P/WYSIXK5, /WYS5	ARP3504	
MEDIA RECEIVER	KRP-M01/WYSIXK5, /WYSXJ5	ARP3508	

<Chinese model>

Component	System	Service Manual	Remarks
FLAT SCREEN TV	KRP-600A	ARP3522	This manual
PLASMA DISPLAY	KRP-600P/WA5	ARP3504	
MEDIA RECEIVER	KRP-M01/WAXJ5	ARP3519	

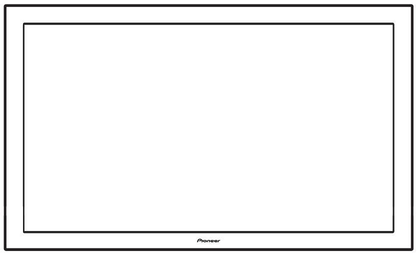
PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

©PIONEER CORPORATION 2008

T-ZZS SEPT. 2008 Printed in Japan

Pioneer

Service Manual


KRP-600P

ORDER NO.
ARP3504

PLASMA DISPLAY
KRP-600P

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
KRP-600P	WYSIXK5	AC 220 V to 240 V	
KRP-600P	WYS5	AC 220 V to 240 V	
KRP-600P	WA5	AC 220 V to 240 V	

For details, refer to "Important Check Points for good servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

©PIONEER CORPORATION 2008

T-IZS-001 SEPT. 2008 Printed in Japan

SAFETY INFORMATION

❗

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains certain electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ▮═══ (fast operating fuse) and/or ▮═══ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ▮═══ (fusible de type rapide) et/ou ▮═══ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

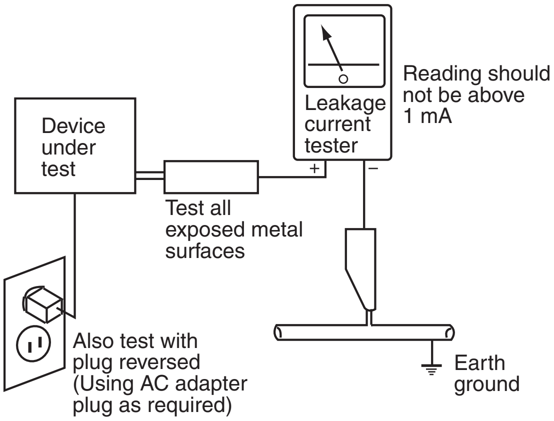
1. When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
2. When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
3. When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
4. Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
5. Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
6. Perform the following precautions against unwanted radiation and rise in internal temperature.
   - Always return the internal wiring to the original styling.
   - Attach parts (Gascket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
7. Perform the following precautions for the PDP panel.
   - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
   - Make sure that the panel vent does not break. (Check that the cover is attached.)
   - Handle the FPC connected to the panel carefully.
     Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
8. Pay attention to the following.
   - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of 4 MΩ.
The below 4 MΩ resistor value indicate an abnormality which require corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).
Turn the AC power switch on.
Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 1 mA.


Device under test
Leakage current tester
+
−
Reading should not be above 1 mA
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.
Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which dose not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

SAFETY INFORMATION 2

1. SERVICE PRECAUTIONS 6
   - 1.1 NOTES ON SOLDERING 6
   - 1.2 NOTES SPECIFIC TO THIS PRODUCT 6
   - 1.3 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT 7
2. SPECIFICATIONS 8
   - 2.1 ACCESSORIES 8
   - 2.2 SPECIFICATIONS 10
   - 2.3 PANEL FACILITIES 11
3. BASIC ITEMS FOR SERVICE 14
   - 3.1 CHECK POINTS AFTER SERVICING 14
   - 3.2 QUICK REFERENCE 15
   - 3.3 PCB LOCATIONS 17
4. BLOCK DIAGRAM 18
   - 4.1 OVERALL WIRING DIAGRAM (1/2) 18
   - 4.2 OVERALL WIRING DIAGRAM (2/2) 20
   - 4.3 OVERALL BLOCK DIAGRAM (1/2) 22
   - 4.4 OVERALL BLOCK DIAGRAM (2/2) 24
   - 4.5 POWER SUPPLY UNIT 26
   - 4.6 60F X DRIVE ASSY 28
   - 4.7 60F Y DRIVE, 60F SCAN A, B, C and D ASSYS 29
   - 4.8 POWER SUPPLY BLOCK of 60F X, Y DRIVE and 60F SCAN A, B, C and D ASSYS 30
   - 4.9 60F ADDRESS L and S ASSYS 31
   - 4.10 60F DIGITAL ASSY 32
   - 4.11 POWER SUPPLY BLOCK of MAIN and AUDIO ASSYS 33
5. DIAGNOSIS 34
   - 5.1 POWER SUPPLY OPERATION 34
   - 5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS 42
   - 5.3 DIAGNOSIS OF PD (POWER-DOWN) 54
   - 5.4 DIAGNOSIS OF SD (SHUTDOWN) 58
   - 5.5 NON-FAILURE INFORMATION 62
   - 5.6 OUTLINE OF THE OPERATION 63
   - 5.7 OUTLINE OF RS-232C COMMAND 68
   - 5.8 LIST OF RS-232C COMMANDS 69
   - 5.9 DETAILS OF RS-232C COMMANDS 76
6. SERVICE FACTORY MODE 90
   - 6.1 DETAILS OF THE FACTORY MENU 90
7. DISASSEMBLY 107
   - 7.1 FLOWCHART OF REMOVAL ORDER 107
   - 7.2 DISASSEMBLY 108
8. EACH SETTING AND ADJUSTMENT 120
   - 8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED 120
   - 8.2 BACKUP OF THE EEPROM (DIGITAL ASSY) 123
   - 8.3 HOW TO CLEAR HISTORY DATA 126
   - 8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED 127
   - 8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED 137
9. EXPLODED VIEWS AND PARTS LIST 140
   - 9.1 PACKING SECTION (KRP-600P/WYSIXK5) 140
   - 9.2 PACKING SECTION (KRP-600P/WYS5) 142
   - 9.3 PACKING SECTION (KRP-600P/WA5) 144
   - 9.4 REAR SECTION 146
   - 9.5 FRONT SECTION 148
   - 9.6 CHASSIS SECTION (1/2) 150
   - 9.7 CHASSIS SECTION (2/2) 152
   - 9.8 PANEL CHASSIS SECTION 154
   - 9.9 MULTIBASE SECTION 156
   - 9.10 PDP SERVICE ASSY 158

1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ºC.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ºC in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

1.2 NOTES SPECIFIC TO THIS PRODUCT

- In same cases, there are silicon sheets on back side of POWER SUPPLY Unit, X DRIVE Assy and Y DRIVE Assy due to heat release of these boards to panel chassis. When replacing these boards, check backside of them and if silicon sheets are on there, surely put these silicon sheets again to the original location of them.

1.3 CHARGED SECTION AND HIGH VOLTAGE GENERATING POINT

■ Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.
If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. Power Cord
2. AC Inlet
3. Power Switch
4. Fuse (In the POWER SUPPLY Unit)
5. STB Transformer and Converter Transformer
   (In the POWER SUPPLY Unit)
6. Other primary side of the POWER SUPPLY Unit

■ High Voltage Generating Point

The places where voltage is 100 V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.
The VSUS voltage remains for several minutes after the power to the unit is turned off. These places must not be touched until about 10 minutes after the power is turned off, or it is confirmed with a tester that there is no residual VSUS voltage.

If the procedures described in “5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION” are performed before the power is turned off, the voltage will be discharged in about 30 seconds.

60F X DRIVE Assy	(210 V)
60F Y DRIVE Assy	(–280 V to 420 V)
60F SCAN A Assy	(–280 V to 420 V)
60F SCAN B Assy	(–280 V to 420 V)
60F SCAN C Assy	(–280 V to 420 V)
60F SCAN D Assy	(–280 V to 420 V)

▨ : Part is Charged Section.

☐ : Part is the High Voltage Generating Points other than the Charged Section.

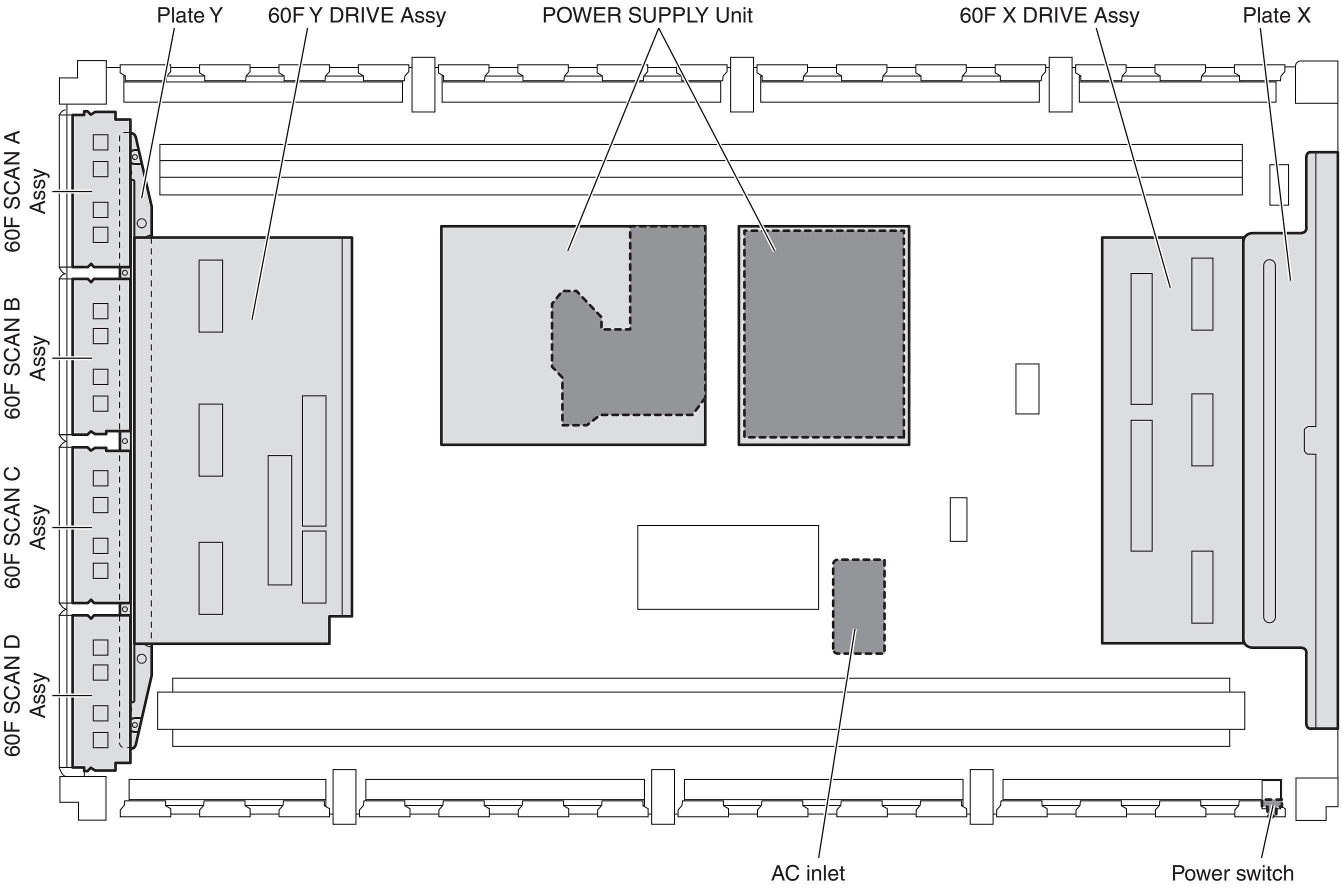


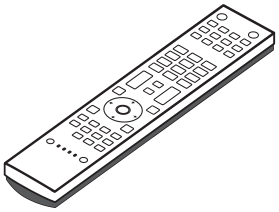
Fig. High Voltage Generating Point (Rear view)

2. SPECIFICATIONS

2.1 ACCESSORIES

■ KRP-600P/WYSIXK5

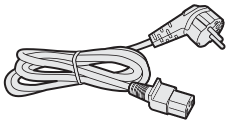
- Remote control unit (AXD1562)



- Power cable

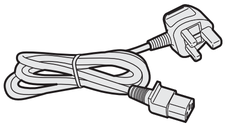
Only the power cable appropriate for your country or region is supplied:

(ADG1214)



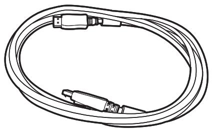
For Europe, except UK and Republic of Ireland

(ADG1223)

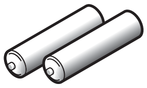


For UK and Republic of Ireland

- System cable (2.9 m) (ADF1041)

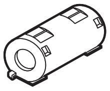


- Alkaline dry cell battery (LR6, AA) (2)

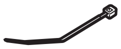


(for remote control unit)

- Ferrite core (ATX1039)(CTX1089)

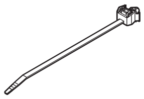


Ferrite core x 2 (Grey x 1, Black x 1)

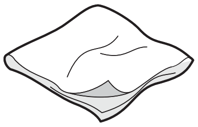


Cable tie (for ferrite core)

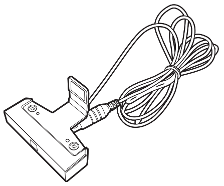
- Binder Assy (AEC2158)
  - Cable clamps (4)



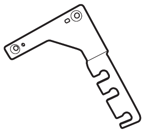
- Cleaning cloth (AED1285)



- Color sensor module (AXF1196)

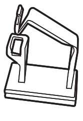


Colour Sensor



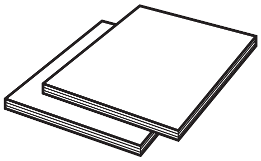
Colour Sensor Bracket (when attached to the top right of the rear panel)

Screw x 2 (M5 x 8 mm)

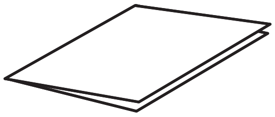


Cable guide

- Operating instructions (2) (ARC1609, ARE1494)

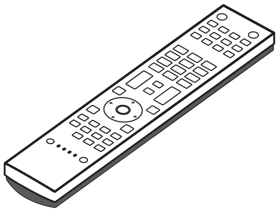


- Warranty card



■ KRP-600P/WYS5

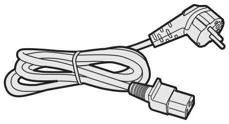
- Remote control unit (AXD1562)



- Power cable

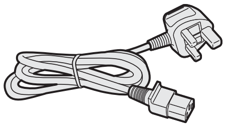
Only the power cable appropriate for your country or region is supplied:

(ADG1214)



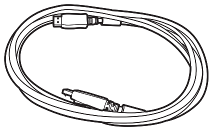
For Europe, except UK and Republic of Ireland

(ADG1223)

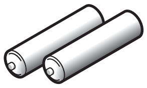


For UK and Republic of Ireland

- System cable (2.9 m) (ADF1041)

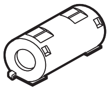


- Alkaline dry cell battery (LR6, AA) (2)

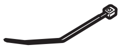


(for remote control unit)

- Ferrite core (ATX1039)(CTX1089)

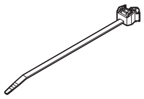


Ferrite core x 2 (Grey x 1, Black x 1)

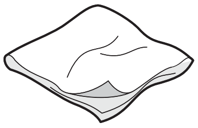


Cable tie (for ferrite core)

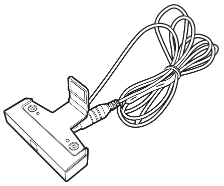
- Binder Assy (AEC2158)
  - Cable clamps (4)



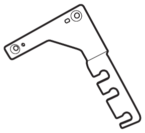
- Cleaning cloth (AED1285)



- Color sensor module (AXF1196)

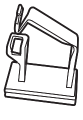


Colour Sensor



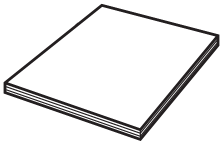
Colour Sensor Bracket (when attached to the top right of the rear panel)

Screw x 2 (M5 x 8 mm)

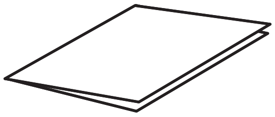


Cable guide

- Operating instructions (ARC1619)

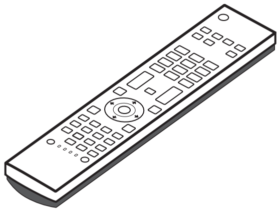


- Warranty card

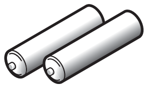


KRP-600P/WA5

- Remote control unit (AXD1569)



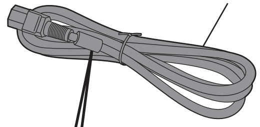
- Dry cell battery (R6, AA) (2)



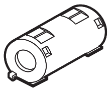
(for remote control unit)

- Power cable

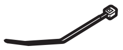
AC power cord (ADG1209)



- Ferrite core (ATX1039)



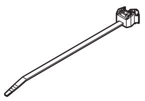
Ferrite core



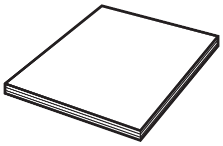
Cable tie (for ferrite core)

- When only the cable tie is necessary, please order a nylon binder (AEC-093).

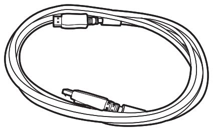
- Binder Assy (AEC2158)
  - Cable clamps (4)



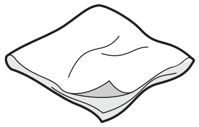
- Operating instructions (ARC1610)



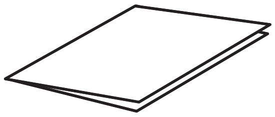
- System cable (2.9 m) (ADF1041)



- Cleaning cloth (AED1285)



- Warranty card



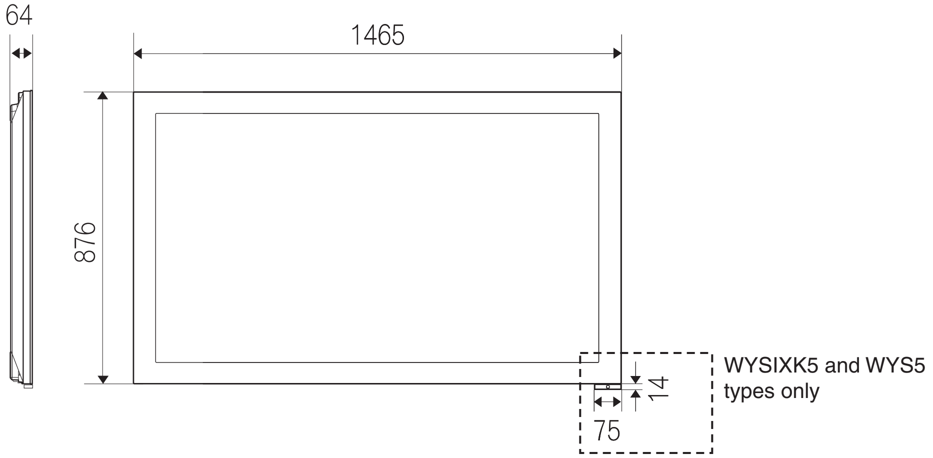
2.2 SPECIFICATIONS

Item		60” display, model: KRP-600P
Number of pixels		1920 x 1080 pixels
Audio amplifier		18 W + 18 W (1 kHz, 10 %, 6 Ω)
Sound Effect		SRS FOCUS/SRS/SRS TruBass/SRS Definition
Power Requirements		220 V to 240 V AC, 50 Hz/60 Hz, 478 W (0.4 W Standby) : For WYSIXK5 and WYS5 types 220 V to 240 V AC, 50 Hz/60 Hz, 502 W (0.5 W Standby) : For WA5 type
Weight		Main unit: 49.9 kg (110 lbs) Colour Sensor: 0.1 kg (0.2 lbs) : WYSIXK5 and WYS5 types only
Terminals Rear	SPEAKERS	6 Ω to 16 Ω
	SYSTEM CABLE	1
	Colour Sensor	1

Dimensions (Display)

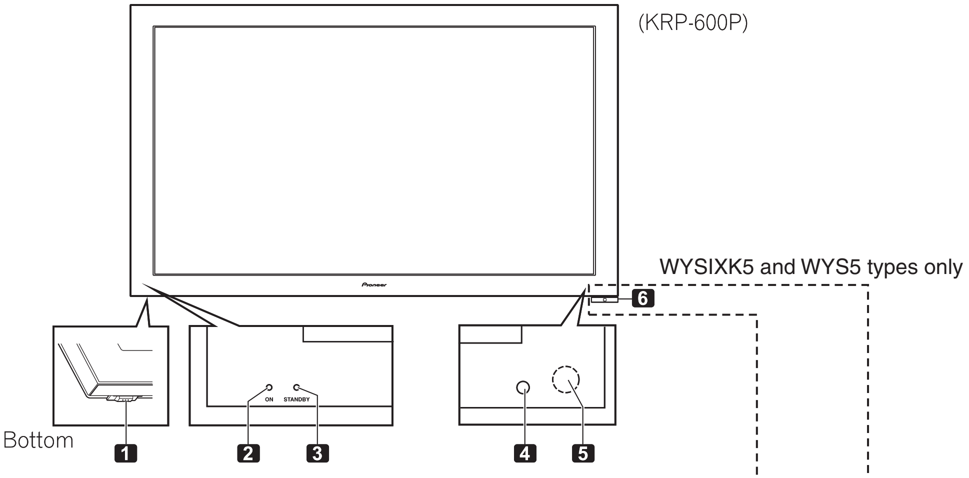
KRP-600P

Unit: mm



2.3 PANEL FACILITIES

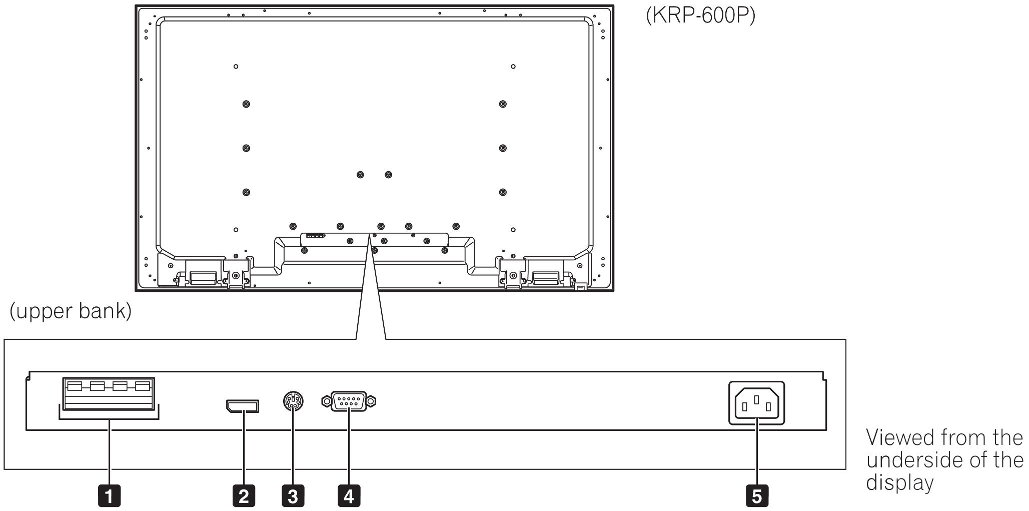
(Front)


(KRP-600P)
WYSIXK5 and WYS5 types only
6
Bottom
ON
STANDBY
1
2
3
4
5

1 Power On (⏻) button
2 Power ON indicator
3 STANDBY indicator

4 Room Light sensor
5 Remote Control sensor
6 Colour sensor

(Rear)

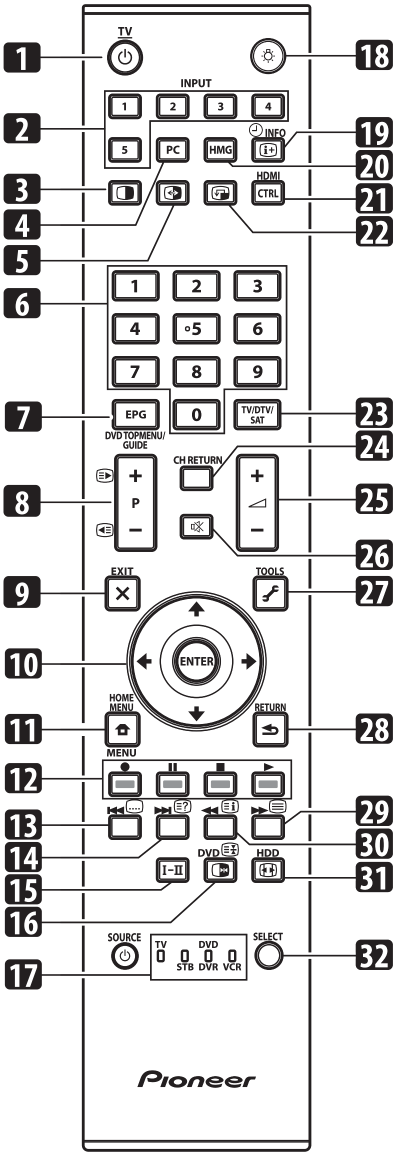

(KRP-600P)
(upper bank)
Viewed from the underside of the display
1
2
3
4
5

1 SPEAKERS terminals (right/left)
- Do not connect any devices to the speaker terminals other than the speakers specified.
- Do not leave speaker cable wires bare and exposed at the terminals. Exposed wires can result in an electrical short causing malfunction or damage to the system.

2 SYSTEM CABLE terminal
3 Colour sensor terminal
4 RS-232C terminal (SERVICE ONLY) (used for factory setup)
5 AC IN terminal

■ Remote Control Unit (for WYSIXK5 and WYS5 types)

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



1 **⏻TV :** Turns on the power to the flat screen TV or places it into the standby mode.

2 **INPUT:** Selects an input source of the flat screen TV. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”, “INPUT 5”)

3 **◨:** Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

4 **PC:** Selects the PC terminal as an input source.

5 **⇔:** Switches between the two screens when in the 2-screen or picture-in-picture mode.

6 **0 to 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

7 **EPG:** Displays the Electronic Programme Guide in DTV/SAT (Satellite) input mode.

8 **P+/P–:** TV/External input mode: Selects a channel.
≡▶/◀≡: Teletext mode: Selects a page.

9 **✕ EXIT:** Returns to the normal screen in one step.

10 **↑/↓/←/→:** Selects a desired item on the setting screen.
ENTER: Executes a command.

11 **⌂ HOME MENU:** Displays the HOME MENU screen.

12 **Colour (RED/GREEN/YELLOW/BLUE):**
Controls a BD player for HDMI Control functions only.

13 **⋯:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

14 **≡?:** Displays hidden characters.

15 **I–II:** Sets the sound multiplex mode.

16 **▶◀:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.
≡⧗ : Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

17 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

18 **☼:** Lights up buttons.
Lights turn off if no operations are performed within five seconds. This is used for remote control use in dark locations.

19 **i+ ◷ INFO:** Displays the channel information.
Displays the banner information.

20 **HMG (Home Media Gallery):** Displays the Home Media Gallery screen.

21 **HDMI CTRL:** Displays the HDMI Control menu.

22 **⧉:** Moves the location of the small screen when in the picture-in-picture mode.

23 **TV/DTV/SAT:** Switches the mode among TV, DTV and SAT.

24 **CH RETURN:** Returns to the previous channel.

25 **◢ +/◢ –:** Sets the volume.

26 **🔇:** Mutes the sound.

27 **🔧 TOOLS:** Displays the TOOLS Menu.

28 **↩ RETURN:** Restores the previous menu screen.

29 **≡:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

30 **≡i:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

31 **⇔:** Selects the screen size.

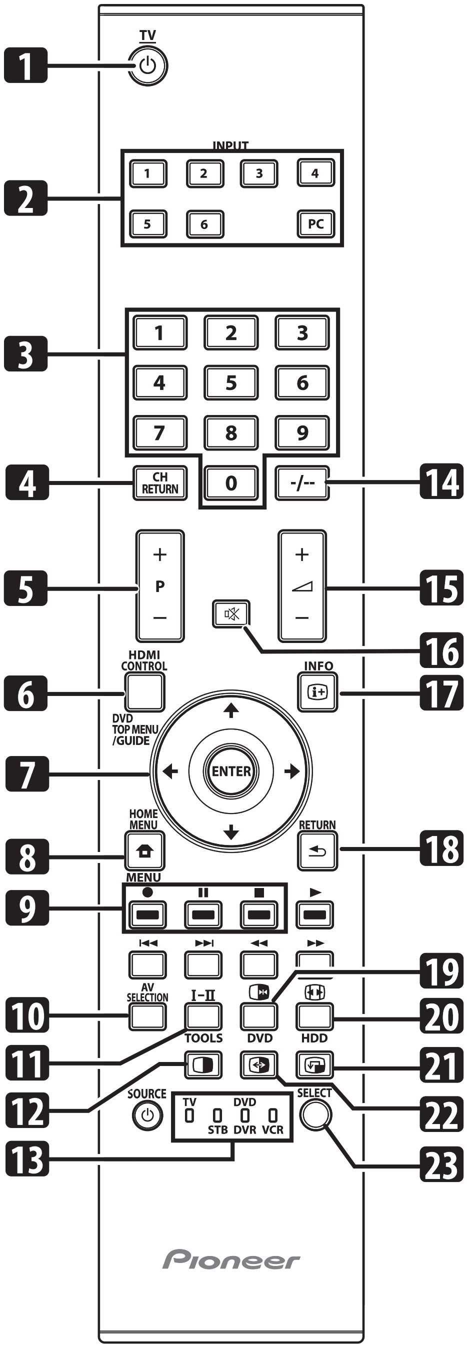
32 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

Note

- When using the remote control unit, point it at the display panel.

■ Remote Control Unit (for WA5 type)

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.


1
TV
2
INPUT
1 2 3 4
5 6 PC
3
1 2 3
4 5 6
7 8 9
4
CH RETURN
0
-/--
14
5
P
15
16
6
HDMI CONTROL
INFO
17
DVD TOP MENU /GUIDE
7
ENTER
HOME MENU
RETURN
18
8
MENU
9
19
AV SELECTION
I-II
10
20
TOOLS
DVD
HDD
11
21
12
SOURCE
TV
DVD
SELECT
22
STB DVR VCR
13
23
Pioneer

1 ⏻: Turns on the power to the flat screen TV or places it into the standby mode.

2 **INPUT:** Selects an input source (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”, “INPUT 5”, “INPUT 6” or “PC”)

3 **0 to 9:** TV/External input mode: Selects a channel.
Turns the power on when the STANDBY indicator lights red.

4 **CH RETURN:** Returns to the previously selected channel.

5 **P+/P–:** TV/External input mode: Selects a channel.

6 **HDMI CONTROL:** Displays the HDMI Control menu.

7 **⬆/⬇/⬅/➡:** Selects a desired item on the setting screen.

ENTER: Executes a command.

8 **HOME MENU:** TV/External Input mode: Displays the HOME MENU screen.

9 **●/II/■:** Used when operating the Home Gallery function.

10 **AV SELECTION:** Selects audio and video settings. (AV source: OPTIMUM, STANDARD, DYNAMIC, MOVIE, GAME, SPORT, USER. PC source: STANDARD, USER.)

11 **I–II:** Sets the sound multiplex mode.

12 **◨:** Press to select 2-screen, picture in picture or single screen mode.

13 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

14 **–/––:** Executes a channel selection.

15 **◺ +/◺ –:** Sets the volume.

16 **🔇:** Mutes the sound.

17 **ⓘ+ INFO:** TV/External input mode: Displays the channel information.

18 ↩ **RETURN:** Restores the previous menu screen.

19 **⏯:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.

20 **⇔:** TV/External input mode: Selects the screen size.

21 **⧉:** Moves the position of the sub screen when in picture in picture mode.

22 **⇄:** Swaps the main and sub screens when in picture in picture or 2-screen mode.

23 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

Note

- When using the remote control unit, point it at the display.

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning

Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to “9.6 CHASSIS SECTION (1/2)”.

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① Rear case
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly.
For details, see "Rear Case" in "7. DISASSEMBLY".

② Attaching screws for the HDMI and system cable terminals
When attaching the HDMI and system cable terminals after replacing the Assembly, secure the terminals manually with a screwdriver, but not with an electric screwdriver.
If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① How to discharge before replacing the Assys
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".

② On the settings after replacement of the Assys
Some boards need settings made after replacement of the Assys.
For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

① Setting in Factory mode
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

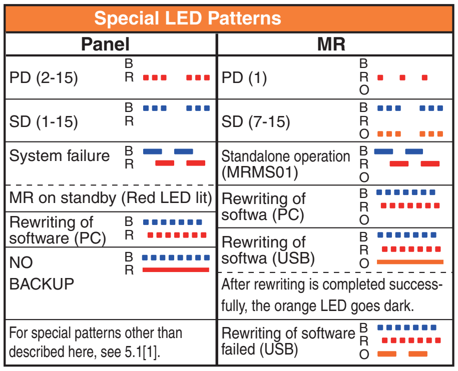
PD

No. of LEDs flashing	MR
Red 1	MR_POWER
	Panel
Red 2	POWER
Red 3	SCAN
Red 4	SCN-5V
Red 6	Y-DCDC
Red 7	Y-SUS
Red 8	ADRS
Red 10	X-DCDC
Red 11	X-SUS
Red 12	DIG-DCDC
Red 15	UNKNOWN

SD

Panel	No. of LEDs flashing	MR
SQ_LSI	Blue 1	
Module Device communication	Blue 2	
DIGITAL-RST2	Blue 3	
Panel temperature	Blue 4	
Audio	Blue 5	Audio (MSP)
Module microcomputer communication	Blue 6	
	Blue 7	Main 3-wire serial communication
Panel main IIC communication	Blue 8	Main IIC communication
	Blue 9	Main microcomputer communication
FAN	Blue 10	FAN
Unit high temperature	Blue 11	Unit high temperature
	Blue 12	D-TUNER communication
DC-IN	Blue 13	RST2/RST4
Panel main EEPROM	Blue 15	Main EEPROM

Special LED Patterns



Panel	MR
PD (2-15)	PD (1)
SD (1-15)	SD (7-15)
System failure	Standalone operation (MRMS01)
MR on standby (Red LED lit)	Rewriting of softwa (PC)
Rewriting of software (PC)	Rewriting of softwa (USB)
NO BACKUP	After rewriting is completed successfully, the orange LED goes dark.
For special patterns other than described here, see 5.1[1].	Rewriting of software failed (USB)

Subcategory confirmation procedure

If the DISPLAY key is pressed during shutdown, the orange LED flashes. (MR only)

SD		SD Subcategory
8	1	Tuner 1
	2	MSP/MAP
	3	AV Switch
	4	RGB Switch
	5	Main VDEC
	6	VDEC-SDRAM
	7	AD/PLL
	8	HDMI
	9	Display Port Tx
13	1	RST2
	2	RST4

Other SD main categories have subcategories.
For details, see 5.4[2].

Commands for shifting between standalone and system operations

Panel	MR
To Standalone operation: SYSS00	To Standalone operation: MRMS01
To System operation: SYSS01	To System operation: MRMS00

Note: After issuing a command, unplug then again plug in the AC power cord.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

2. Confirmation of the Power-down and Shutdown histories

① Panel system
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] two times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

② MR section
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] two times.)

③ Panel main section
Select {PANEL MAIN FACTORY} then {PM NG INFO}.
After entering Factory mode, press [MUTING] twice, then press [ENTER/SET].

3. How to display the Mask indication

① Mask indication in the panel side
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬆] or [⬇].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. DIGITAL Assy (Panel): Transfer of backup data

① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

2. MAIN BLOCK Assy (MR), MAIN Assy (Panel): Execution of FINAL SETUP.

① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit (Panel): Clearance of the accumulated power-on count and maximum temperature value

① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

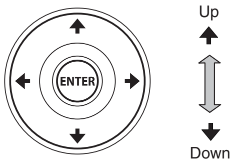
4. Other Assys (panel): Clearance of the maximum temperature value

① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

A

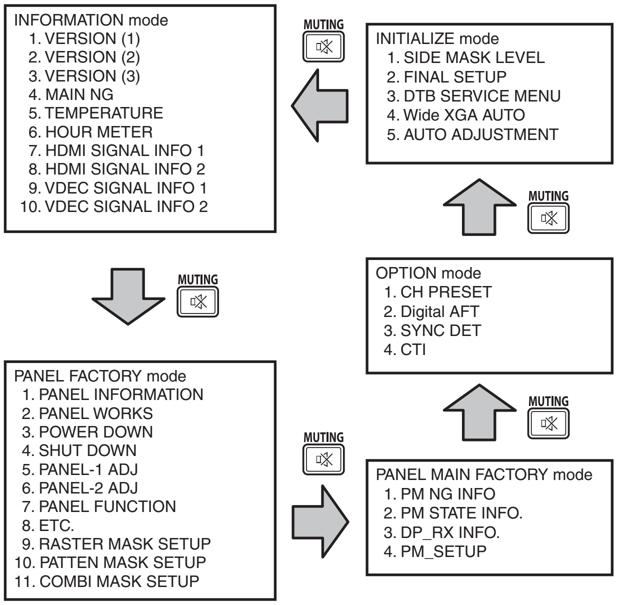
Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [⬆] or [⬇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].

B



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. VERSION (3)
4. MAIN NG
5. TEMPERATURE
6. HOUR METER
7. HDMI SIGNAL INFO 1
8. HDMI SIGNAL INFO 2
9. VDEC SIGNAL INFO 1
10. VDEC SIGNAL INFO 2

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. DTB SERVICE MENU
4. Wide XGA AUTO
5. AUTO ADJUSTMENT

OPTION mode
1. CH PRESET
2. Digital AFT
3. SYNC DET
4. CTI

C

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

PANEL MAIN FACTORY mode
1. PM NG INFO
2. PM STATE INFO.
3. DP_RX INFO.
4. PM_SETUP

Structure of Layers in Service Factory Mode

INFORMATION mode	
├ 1. VERSION (1)	The software versions for each microcomputer
├ 2. VERSION (2)	The Flash memory versions for each device
├ 3. VERSION (3)	The software versions for display microcomputer
├ 4. MAIN NG	The shutdown message ID/event times (Going Clear mode by [ENTER/SET] key)
└ 4-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [ENTER/SET] key
├ 5. TEMPERATURE	The temperature/FAN rotating status
├ 6. HOUR METER	The HOUR METER/P-COUNT information
├ 7. HDMI SIGNAL INFO 1	The information of HDMI information files
├ 8. HDMI SIGNAL INFO 2	The information of HDMI information files
├ 9. VDEC SIGNAL INFO 1	The signal information of VDEC
├ 10. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
PANEL MAIN FACTORY mode	
├ 1. PM NG INFO.	Shutdown history of the panel main
├ 2. PM STATE INFO.	The temperature/FAN rotating status/Room Light Sensor
├ 3. DP_RX INFO.	Indication of the DPRx ID
├ 4. PM_SETUP	Select the bezel color and clear the shutdown history of the panel main
OPTION mode	
├ 1. CH PRESET	For production line use
├ 2. Digital AFT	For production line use
├ 3. SYNC DET	For technical analysis
├ 4. CTI	For technical analysis
INITIALIZE mode	
├ 1. SIDE MASK LEVEL	For factory use
└ 1-1. SIDE MASK LEVEL	
├ 2. FINAL SETUP	Set to Factory default settings (it should perform after replacing a MAIN Assy)
└ 2-1. DATA RESET	
├ 3. DTB SERVICE MODE	Information for the Digital Tuner Service Menu is displayed
└ 3-1. MODE SHIFT	
├ 4. Wide XGA AUTO	For technical analysis
└ 5. AUTO ADJUSTMENT	

D

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
1. VOL SUS	Settings required after replacement of the panel
2. VOL OFFSET	
• • • • •	
10. RESET1ST_KSB	Items for factory use
• • • • •	
25. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
1. R-HIGH	For the WB adjustment of the panel and ABL adjustment. A setting table is available for each signal frequency.
2. G-HIGH	
• • • • •	
6. B-LOW	
7. ABL	
7. PANEL FUNCTION (+)	
1. R-LEVEL	Items for factory use
• • • • •	

To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

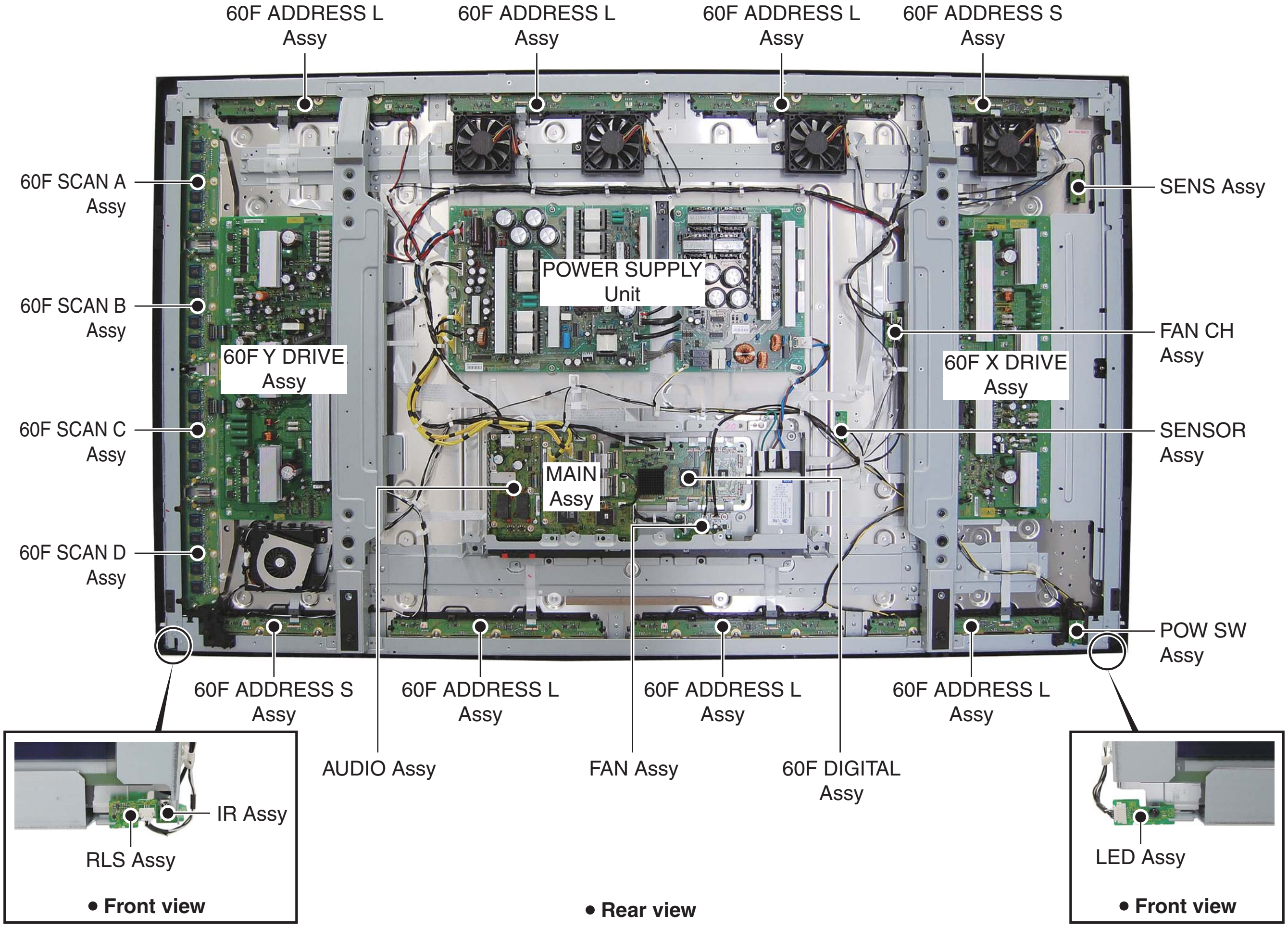
8. ETC (+)	
1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy) Change the adjustment status of the DIGITAL Assy.
2. DIGITAL EEPROM	
3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", then hold [ENTER/SET] pressed for at least 5 seconds.
4. SD INFO.	
5. HR-MTR INFO.	
6. PM/B1-B5	
7. P COUNT INFO.	
8. MAX TEMP.	
9. MIRROR	Switch the Mirror display mode.
10. CLS	Switch the function when checking the color sensor level.
9. RASTER MASK SETUP (+)	
1. MASK OFF	For use while the Raster Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. RST MASK 01	
• • • • •	
10. PATTERN MASK SETUP (+)	
1. MASK OFF	For use while the Pattern Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. PTN MASK 01	
• • • • •	
11. COMBI MASK SETUP (+)	
1. MASK OFF	For use while the Combination Mask is displayed. Use [⬆] or [⬇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. CMB MASK 01	
• • • • •	

E

F

3.3 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.


60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS S Assy
60F SCAN A Assy
60F SCAN B Assy
60F SCAN C Assy
60F SCAN D Assy
SENS Assy
POWER SUPPLY Unit
60F Y DRIVE Assy
60F X DRIVE Assy
FAN CH Assy
SENSOR Assy
MAIN Assy
POW SW Assy
60F ADDRESS S Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
60F ADDRESS L Assy
AUDIO Assy
FAN Assy
60F DIGITAL Assy
IR Assy
RLS Assy
LED Assy

● Front view

● Rear view

● Front view

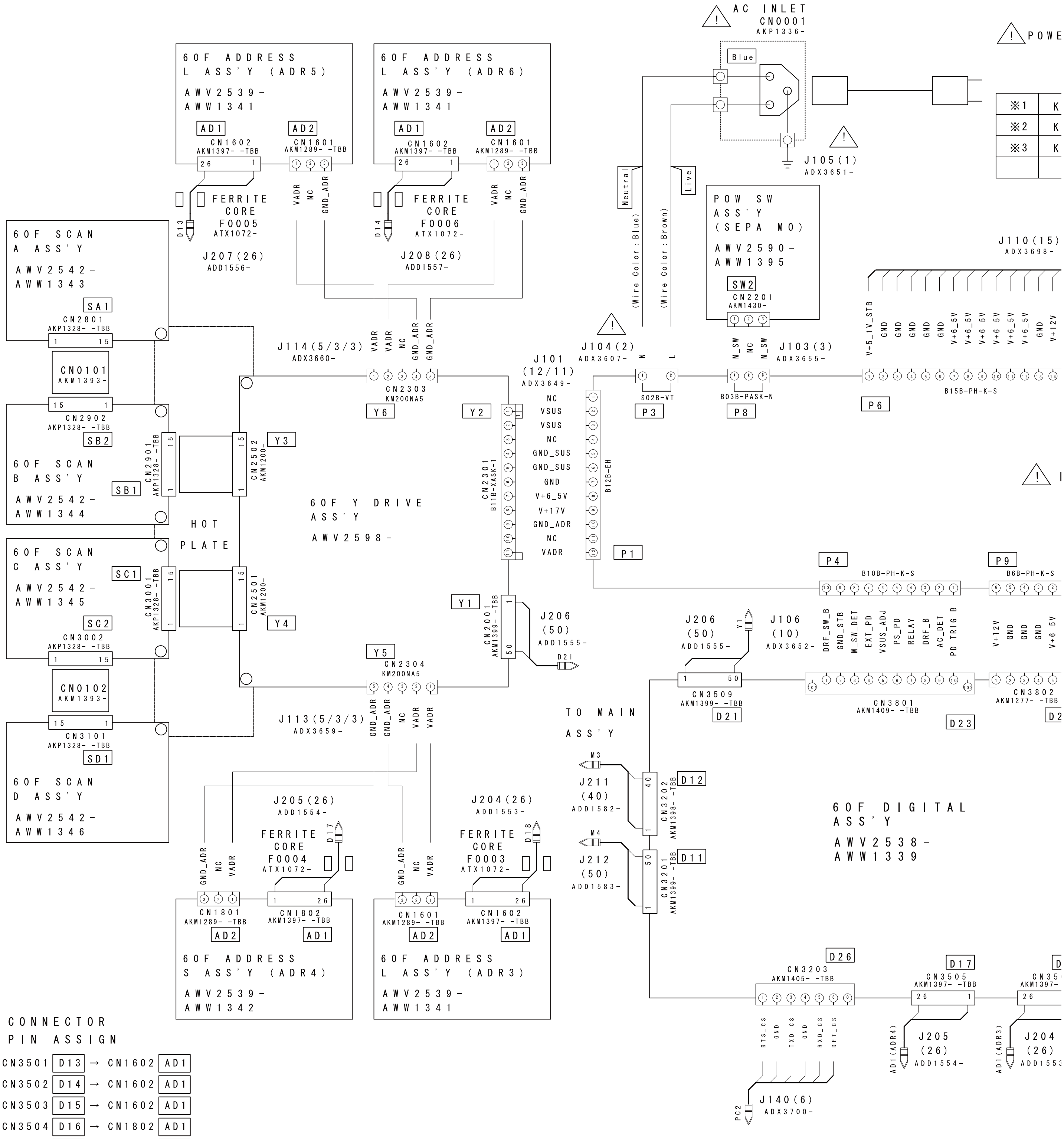
NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

Mark	No.	Description	Part No.
		(PDP Panel)	
NSP		60F ADDRESS L ASSY	AWW1341
NSP		60F ADDRESS S ASSY	AWW1342
NSP		60F SCAN A ASSY	AWW1343
		└ IC2801 - IC2804	AN16184A
NSP		60F SCAN B ASSY	AWW1344
		└ IC2901 - IC2904	AN16184A
NSP		60F SCAN C ASSY	AWW1345
		└ IC3001 - IC3004	AN16184A
NSP		60F SCAN D ASSY	AWW1346
		└ IC3101 - IC3104	AN16184A
		60F DIGITAL Assy	AWW1339
		SENSOR ASSY	AWW1340
		60F X DRIVE ASSY	AWV2597
		60F Y DRIVE ASSY	AWV2598

Mark	No.	Description	Part No.
		(MTB)	
		MAIN ASSY	AWW1393
		FAN ASSY	AWW1394
		POW SW ASSY	AWW1395
		SENS ASSY	AWW1396
		FAN CH ASSY	AWW1397
		AUDIO ASSY	AWW1398
		LED ASSY	AWW1399
		IR ASSY	AWW1400
		RLS ASSY	AWW1401
		(Power Supply)	
⚠		POWER SUPPLY UNIT	AXY1201
		(Service Assy)	
		PDP SERVICE ASSY 609FE	AWU1379

4. BLOCK DIAGRAM
4.1 OVERALL WIRING DIAGRAM (1/2)


AC INLET
CN0001
AKP1336-
Blue
J105(1)
ADX3651-
POWE
※1 K
※2 K
※3 K
Neutral
Live
(Wire Color: Blue)
(Wire Color: Brown)
POW SW
ASS'Y
(SEPA MO)
AWV2590-
AWW1395
SW2
CN2201
AKM1430-
M_SW
NC
M_SW
J103(3)
ADX3655-
B03B-PASK-N
P8
J104(2)
ADX3607-
N
L
S02B-VT
P3
J110(15)
ADX3698-
V+5_1V_STB
GND
GND
GND
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
V+12V
B15B-PH-K-S
P6
60F ADDRESS
L ASS'Y (ADR5)
AWV2539-
AWW1341
AD1
AD2
CN1602
AKM1397- -TBB
CN1601
AKM1289- -TBB
26
1
VADR
NC
GND_ADR
D13
FERRITE
CORE
F0005
ATX1072-
J207(26)
ADD1556-
60F ADDRESS
L ASS'Y (ADR6)
AWV2539-
AWW1341
D14
FERRITE
CORE
F0006
ATX1072-
J208(26)
ADD1557-
60F SCAN
A ASS'Y
AWV2542-
AWW1343
SA1
CN2801
AKP1328- -TBB
1
15
CN0101
AKM1393-
15
1
CN2902
AKP1328- -TBB
SB2
60F SCAN
B ASS'Y
AWV2542-
AWW1344
SB1
CN2901
AKP1328- -TBB
HOT
PLATE
60F SCAN
C ASS'Y
AWV2542-
AWW1345
SC1
CN3001
AKP1328- -TBB
SC2
CN3002
AKP1328- -TBB
CN0102
AKM1393-
CN3101
AKP1328- -TBB
SD1
60F SCAN
D ASS'Y
AWV2542-
AWW1346
J114(5/3/3)
ADX3660-
VADR
VADR
NC
GND_ADR
GND_ADR
CN2303
KM200NA5
Y6
Y2
Y3
CN2502
AKM1200-
60F Y DRIVE
ASS'Y
AWV2598-
CN2501
AKM1200-
Y4
Y1
CN2001
AKM1399- -TBB
J206
(50)
ADD1555-
D21
Y5
CN2304
KM200NA5
J113(5/3/3)
ADX3659-
GND_ADR
GND_ADR
NC
VADR
VADR
J101
(12/11)
ADX3649-
NC
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+17V
GND_ADR
NC
VADR
CN2301
B11B-XASK-1
B12B-EH
P1
P4
B10B-PH-K-S
P9
B6B-PH-K-S
J206
(50)
ADD1555-
Y1
J106
(10)
ADX3652-
DRF_SW_B
GND_STB
M_SW_DET
EXT_PD
VSUS_ADJ
PS_PD
RELAY
DRF_B
AC_DET
PD_TRIG_B
V+12V
GND
GND
GND
V+6_5V
CN3509
AKM1399- -TBB
D21
CN3801
AKM1409- -TBB
D23
CN3802
AKM1277- -TBB
D2
TO MAIN
ASS'Y
M3
J211
(40)
ADD1582-
CN3202
AKM1398- -TBB
D12
M4
J212
(50)
ADD1583-
CN3201
AKM1399- -TBB
D11
60F DIGITAL
ASS'Y
AWV2538-
AWW1339
J205(26)
ADD1554-
D17
FERRITE
CORE
F0004
ATX1072-
J204(26)
ADD1553-
D18
FERRITE
CORE
F0003
ATX1072-
CN1801
AKM1289- -TBB
CN1802
AKM1397- -TBB
AD2
AD1
60F ADDRESS
S ASS'Y (ADR4)
AWV2539-
AWW1342
CN1601
AKM1289- -TBB
CN1602
AKM1397- -TBB
60F ADDRESS
L ASS'Y (ADR3)
AWV2539-
AWW1341
D26
CN3203
AKM1405- -TBB
RTS_CS
GND
TXD_CS
GND
RXD_CS
DET_CS
J140(6)
ADX3700-
PC2
D17
CN3505
AKM1397- -TBB
AD1(ADR4)
J205
(26)
ADD1554-
CN35
AKM1397-
AD1(ADR3)
J204
(26)
ADD1553

CONNECTOR
PIN ASSIGN

CN3501	D13	→	CN1602	AD1
CN3502	D14	→	CN1602	AD1
CN3503	D15	→	CN1602	AD1
CN3504	D16	→	CN1802	AD1
CN3505	D17	→	CN1802	AD1
CN3506	D18	→	CN1602	AD1
CN3507	D19	→	CN1602	AD1
CN3508	D20	→	CN1602	AD1

1→26. V+10V
2→25. V+10V
3→24. GND
4→23. GND
5→22. AN
6→21. AP
7→20. GND
8→19. BN
9→18. BP
10→17. GND
11→16. CN
12→15. CP
13→14. GND
14→13. CLKN
15→12. CLKP
16→11. GND
17→10. DN
18→ 9. DP
19→ 8. GND
20→ 7. GND
21→ 6. V+3_3V
22→ 5. V+3_3V
23→ 4. V+3_3V
24→ 3. GND
25→ 2. LS1
26→ 1. ADR_PD

CN2501 Y4
↓
CN3001 SC1

1. VH
2. VH
3. NC
4. NC
5. GNDH_VH
6. GNDH_VH
7. SI
8. GNDH_DIG
9. CLK_L
10. LE
11. OC1
12. OC2
13. CLR
14. GNDH_RL
15. IC5V

CN2502 Y3
↓
CN2901 SB1

1. VH
2. VH
3. NC
4. NC
5. GNDH_VH
6. GNDH_VH
7. CLK_H
8. GNDH_DIG
9. LE
10. OC1
11. OC2
12. CLR
13. SI
14. GNDH_RH
15. IC5V

CN2801 SA1
↓
CN2902 SB2

1→15. VH
2→14. NC
3→13. NC
4→12. GNDH_VH
5→11. NC
6→10. SI_A
7→ 9. J_SI
8→ 8. GNDH_DIG
9→ 7. CLK_H
10→ 6. LE
11→ 5. OC1
12→ 4. OC2_H
13→ 3. CLR
14→ 2. GNDH_RH
15→ 1. IC5V

CN3002 SC2
↓
CN3101 SD1

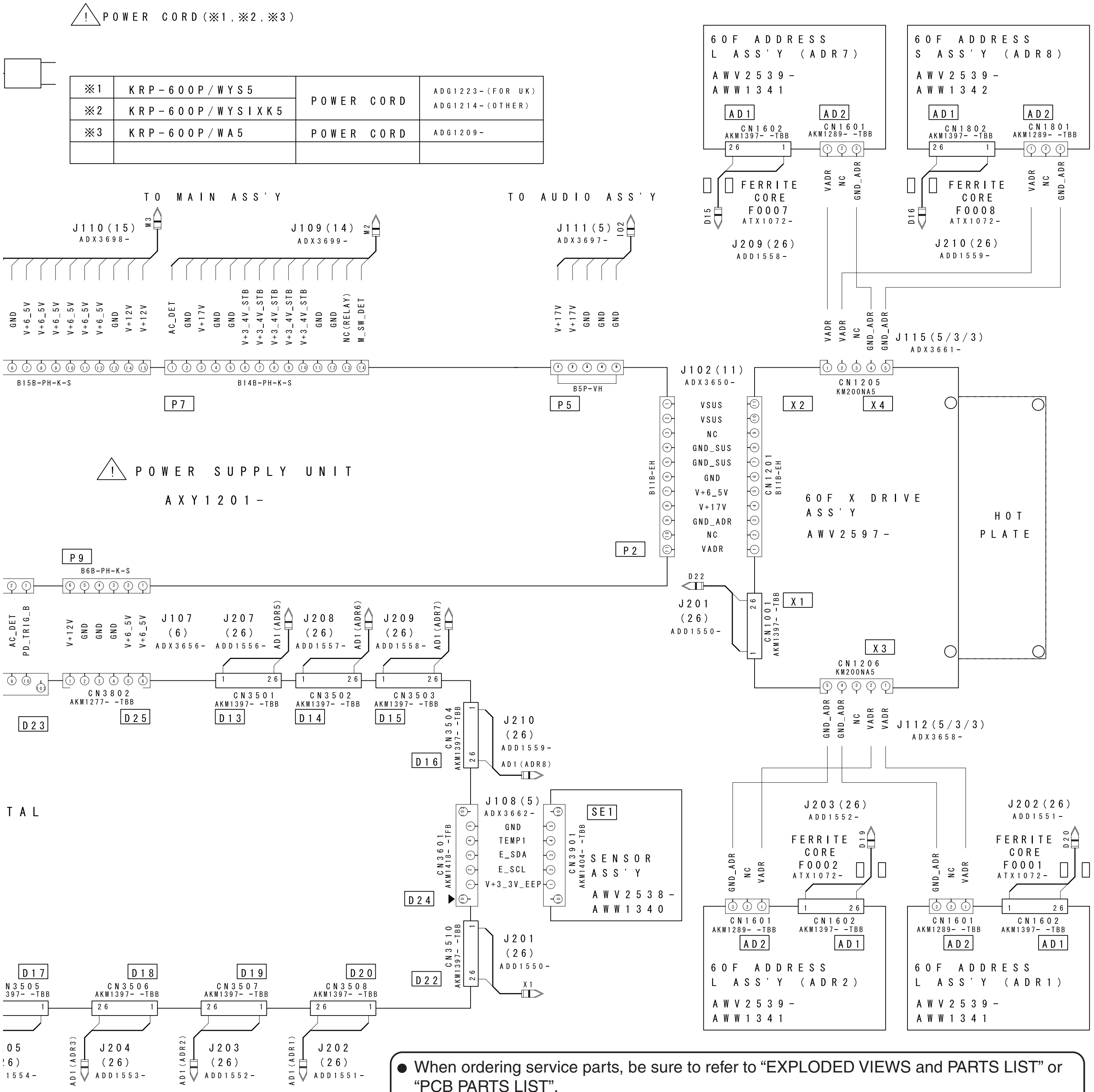
1→15. VH
2→14. NC
3→13. NC
4→12. GNDH_VH
5→11. NC
6→10. SI_D
7→ 9. J_SI
8→ 8. GNDH_DIG
9→ 7. CLR
10→ 6. OC2_L
11→ 5. OC1
12→ 4. LE
13→ 3. CLK_L
14→ 2. GNDH_RL
15→ 1. IC5V

CN3509 D21 → CN2001 Y1

1→50. YCN_PD
2→49. VYPRST_ADJ
3→48. SCAN_PD
4→47. GND
5→46. YDD_PD
6→45. VOFS_ADJ
7→44. YSUS_PD
8→43. GND
9→42. YRSV1
10→41. YRSV2
11→40. GND
12→39. YKNOFS4
13→38. YKNOFS3
14→37. YKNOFS2
15→36. YKNOFS1
16→35. GND
17→34. YSOFT-G
18→33. SUS_MUTE
19→32. YSNOFS
20→31. GND
21→30. YRST-D
22→29. YSUS_LMSK
23→28. YSUS_HMSK
24→27. GND
25→26. YSUS_D
26→25. YPR-U
27→24. YSUS_G
28→23. GND
29→22. YSUS_U
30→21. YRSV3
31→20. YSUS_B
32→19. ESW
33→18. GND
34→17. CLK_L
35→16. YRSV4
36→15. SI
37→14. CLK_H
38→13. GND
39→12. LE
40→11. OC1
41→10. OC2
42→ 9. CLR
43→ 8. GND
44→ 7. VKNOFS4_ADJ
45→ 6. VKNOFS3_ADJ
46→ 5. VKNOFS1_2_ADJ
47→ 4. GND
48→ 3. SCN5V_PD
49→ 2. YDRV_PD(GND)
50→ 1. PSW2

CN3201

1→50. V+
2→49. NC
3→48. GN
4→47. MU
5→46. RE
6→45. RE
7→44. RX
8→43. TX
9→42. GN
10→41. TH
11→40. VD
12→39. HD
13→38. DE
14→37. GN
15→36. CL
16→35. GN
17→34. R9



A
B
C
D
E
POWER CORD (※1, ※2, ※3)
TO MAIN ASS'Y
TO AUDIO ASS'Y
J110(15)
ADX3698-
M3
J109(14)
ADX3699-
M2
J111(5)
ADX3697-
IO2
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
V+12V
V+12V
AC_DET
GND
V+17V
GND
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
V+17V
V+17V
GND
GND
GND
B15B-PH-K-S
B14B-PH-K-S
B5P-VH
P7
P5
POWER SUPPLY UNIT
AXY1201-
P9
B6B-PH-K-S
P2
B11B-EH
J102(11)
ADX3650-
VSUS
VSUS
NC
GND_SUS
GND_SUS
GND
V+6_5V
V+17V
GND_ADR
NC
VADR
CN1201
B11B-EH
60F X DRIVE ASS'Y
AWV2597-
HOT PLATE
X2
X4
X1
X3
CN1205
KM200NA5
CN1206
KM200NA5
J115(5/3/3)
ADX3661-
J112(5/3/3)
ADX3658-
VADR
VADR
NC
GND_ADR
GND_ADR
D22
J201
(26)
ADD1550-
CN1001
AKM1397- -TBB
60F ADDRESS L ASS'Y (ADR7)
AWV2539-
AWW1341
60F ADDRESS S ASS'Y (ADR8)
AWV2539-
AWW1342
AD1
AD2
CN1602
AKM1397- -TBB
CN1601
AKM1289- -TBB
CN1802
AKM1397- -TBB
CN1801
AKM1289- -TBB
FERRITE CORE
F0007
ATX1072-
FERRITE CORE
F0008
ATX1072-
D15
D16
J209(26)
ADD1558-
J210(26)
ADD1559-
AC_DET
PD_TRIG_B
V+12V
GND
GND
GND
V+6_5V
V+6_5V
J107
(6)
ADX3656-
J207
(26)
ADD1556-
AD1(ADR5)
J208
(26)
ADD1557-
AD1(ADR6)
J209
(26)
ADD1558-
AD1(ADR7)
CN3802
AKM1277- -TBB
CN3501
AKM1397- -TBB
CN3502
AKM1397- -TBB
CN3503
AKM1397- -TBB
D23
D25
D13
D14
D15
CN3504
AKM1397- -TBB
J210
(26)
ADD1559-
AD1(ADR8)
D16
TAL
J108(5)
ADX3662-
GND
TEMP1
E_SDA
E_SCL
V+3_3V_EEP
CN3601
AKM1418- -TFB
CN3901
AKM1404- -TBB
SE1
SENSOR ASS'Y
AWV2538-
AWW1340
D24
CN3510
AKM1397- -TBB
J201
(26)
ADD1550-
X1
D22
D17
D18
D19
D20
CN3505
397- -TBB
CN3506
AKM1397- -TBB
CN3507
AKM1397- -TBB
CN3508
AKM1397- -TBB
05
26)
1554-
J204
(26)
ADD1553-
AD1(ADR3)
J203
(26)
ADD1552-
AD1(ADR2)
J202
(26)
ADD1551-
AD1(ADR1)
J203(26)
ADD1552-
J202(26)
ADD1551-
FERRITE CORE
F0002
ATX1072-
FERRITE CORE
F0001
ATX1072-
D19
D20
GND_ADR
NC
VADR
CN1601
AKM1289- -TBB
CN1602
AKM1397- -TBB
60F ADDRESS L ASS'Y (ADR2)
AWV2539-
AWW1341
60F ADDRESS L ASS'Y (ADR1)
AWV2539-
AWW1341

POWER CORD (※1, ※2, ※3)

※1	KRP-600P/WYS5	POWER CORD	ADG1223-(FOR UK) ADG1214-(OTHER)
※2	KRP-600P/WYSIXK5		
※3	KRP-600P/WA5	POWER CORD	ADG1209-

- When ordering service parts, be sure to refer to "EXPLODED VIEWS and PARTS LIST" or "PCB PARTS LIST".
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.

_ADJ
_ADJ
_2_ADJ
)
(GND)

CN3201 D11 → CN4002 M8

1→50. V+3_4V_ACT2
2→49. NC
3→48. GND
4→47. MULTI_OE
5→46. RELAY2
6→45. REQ_MD
7→44. RXD_MD
8→43. TXD_MD
9→42. GND
10→41. THEATER
11→40. VD
12→39. HD
13→38. DE
14→37. GND
15→36. CLK
16→35. GND
17→34. R9_EVN
18→33. R8_EVN
19→32. R7_EVN
20→31. R6_EVN
21→30. R5_EVN
22→29. R4_EVN
23→28. R3_EVN
24→27. R2_EVN
25→26. R1_EVN
26→25. R0_EVN
27→24. GND
28→23. G9_EVN
29→22. G8_EVN
30→21. G7_EVN
31→20. G6_EVN
32→19. G5_EVN
33→18. G4_EVN
34→17. G3_EVN
35→16. G2_EVN
36→15. G1_EVN
37→14. G0_EVN
38→13. GND
39→12. B9_EVN
40→11. B8_EVN
41→10. B7_EVN
42→ 9. B6_EVN
43→ 8. B5_EVN
44→ 7. B4_EVN
45→ 6. B3_EVN
46→ 5. B2_EVN
47→ 4. B1_EVN
48→ 3. B0_EVN
49→ 2. GND
50→ 1. MODE_A

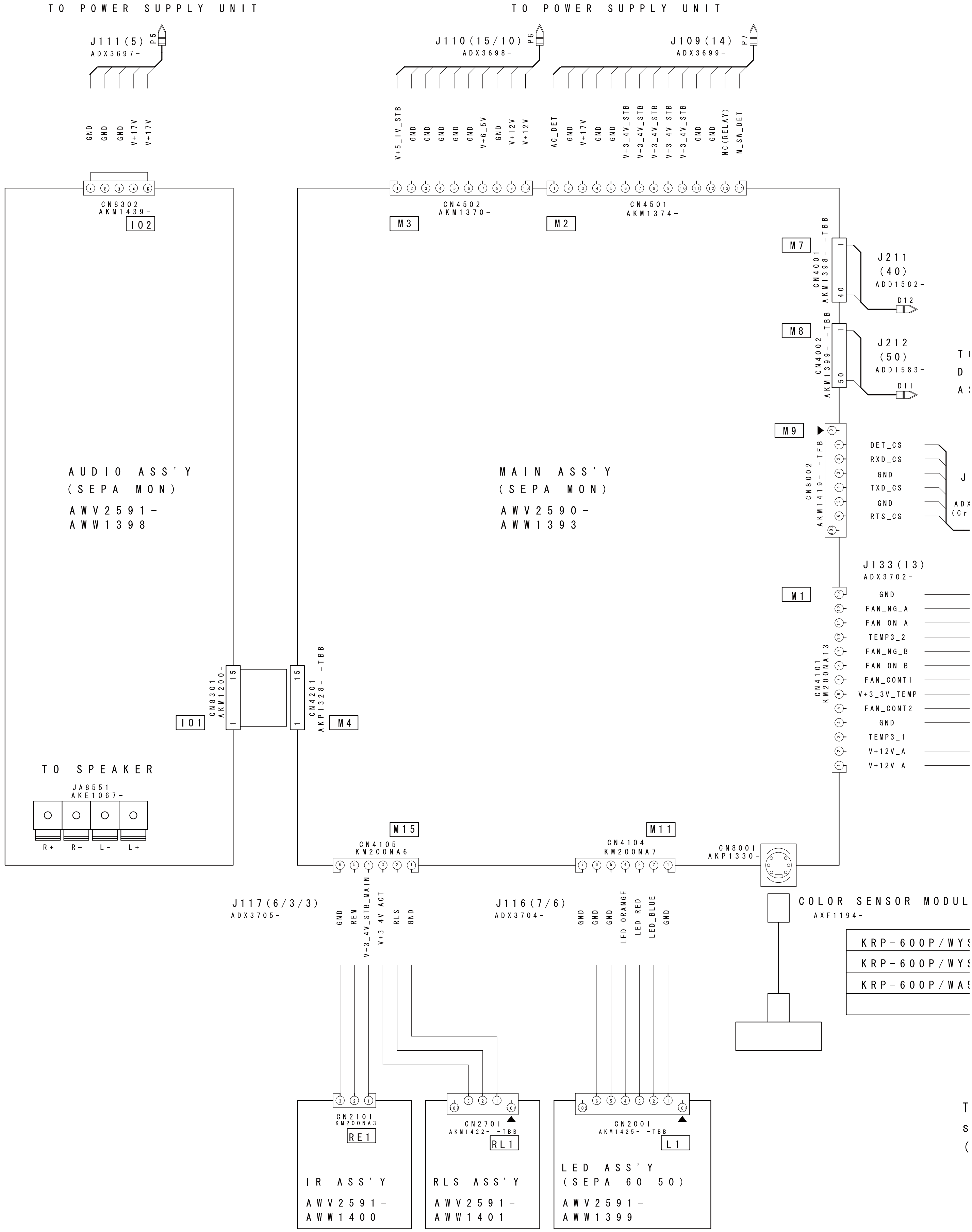
CN3202 D12 → CN4001 M7

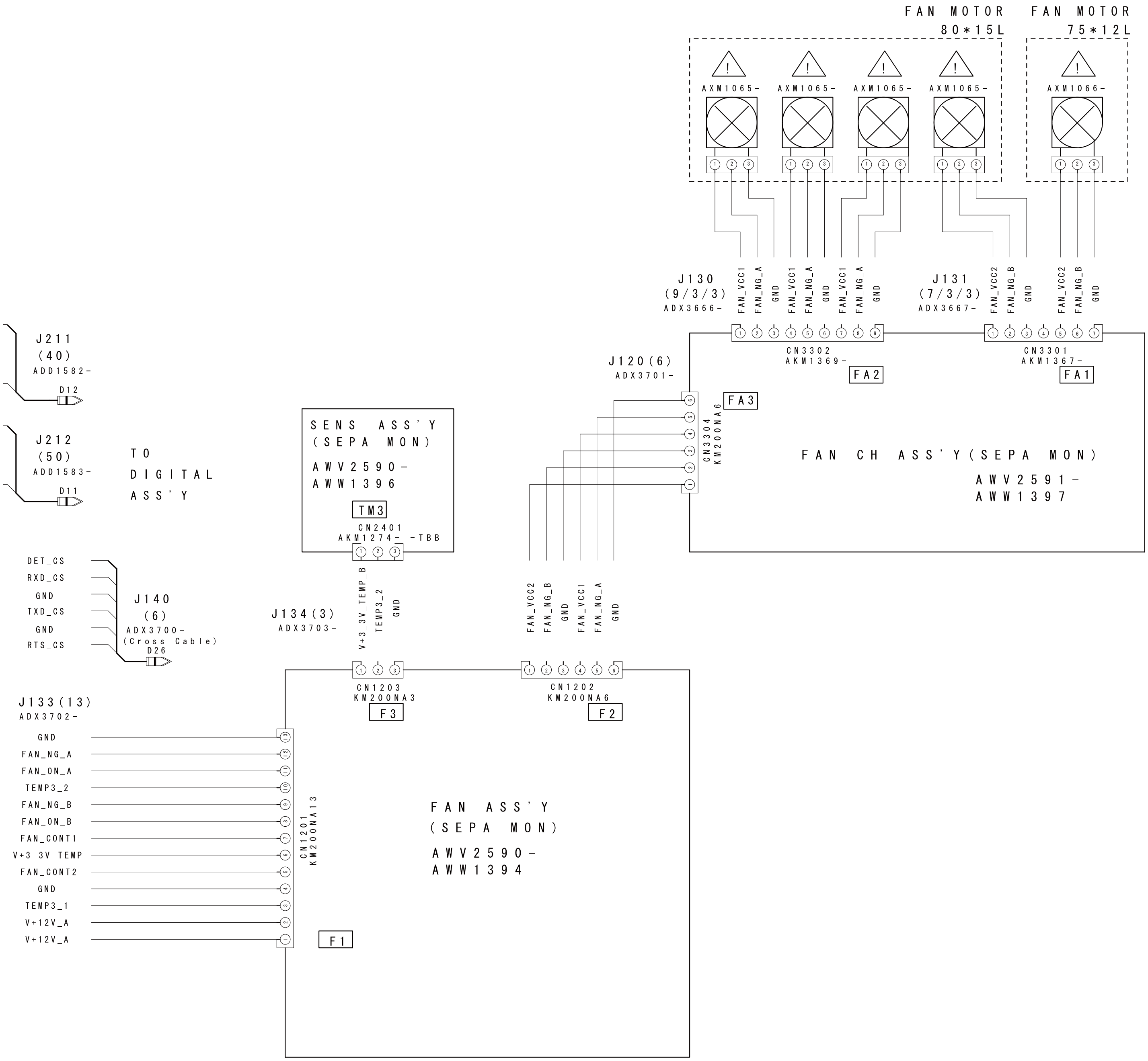
1→40. MODE_B
2→39. SQ_SEL
3→38. GND
4→37. GND
5→36. R9_ODD
6→35. R8_ODD
7→34. R7_ODD
8→33. R6_ODD
9→32. R5_ODD
10→31. R4_ODD
11→30. R3_ODD
12→29. R2_ODD
13→28. R1_ODD
14→27. R0_ODD
15→26. GND
16→25. G9_ODD
17→24. G8_ODD
18→23. G7_ODD
19→22. G6_ODD
20→21. G5_ODD
21→20. G4_ODD
22→19. G3_ODD
23→18. G2_ODD
24→17. G1_ODD
25→16. G0_ODD
26→15. GND
27→14. B9_ODD
28→13. B8_ODD
29→12. B7_ODD
30→11. B6_ODD
31→10. B5_ODD
32→ 9. B4_ODD
33→ 8. B3_ODD
34→ 7. B2_ODD
35→ 6. B1_ODD
36→ 5. B0_ODD
37→ 4. GND
38→ 3. GND
39→ 2. GND
40→ 1. MODE_C

CN3510 D22 → CN1001 X1

1→26. XSUS_B
2→25. GND
3→24. XSUS_U
4→23. GND
5→22. XSUS_D
6→21. GND
7→20. XSUS_G
8→19. GND
9→18. XPRST
10→17. GND
11→16. XKOFS1
12→15. GND
13→14. XKOFS2
14→13. GND
15→12. XSOFT_D
16→11. GND
17→10. SUS_MUTE
18→ 9. GND
19→ 8. XKOFS1_ADJ
20→ 7. XKOFS2_ADJ
21→ 6. GND
22→ 5. XDD_PD
23→ 4. PSW2
24→ 3. XRSV1
25→ 2. Psize
26→ 1. XSUS_PD

4.2 OVERALL WIRING DIAGRAM (2/2)


A
B
C
D
E
F
TO POWER SUPPLY UNIT
J111(5)
ADX3697-
P5
GND
GND
GND
V+17V
V+17V
TO POWER SUPPLY UNIT
J110(15/10)
ADX3698-
P6
V+5_1V_STB
GND
GND
GND
GND
GND
V+6_5V
GND
V+12V
V+12V
J109(14)
ADX3699-
P7
AC_DET
GND
V+17V
GND
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
NC(RELAY)
M_SW_DET
CN8302
AKM1439-
I02
CN4502
AKM1370-
M3
CN4501
AKM1374-
M2
M7
CN4001
AKM1398- -TBB
J211
(40)
ADD1582-
D12
M8
CN4002
AKM1399- -TBB
J212
(50)
ADD1583-
D11
M9
CN8002
AKM1419- -TFB
DET_CS
RXD_CS
GND
TXD_CS
GND
RTS_CS
AUDIO ASS'Y
(SEPA MON)
AWV2591-
AWW1398
MAIN ASS'Y
(SEPA MON)
AWV2590-
AWW1393
J133(13)
ADX3702-
M1
CN4101
KM200NA13
GND
FAN_NG_A
FAN_ON_A
TEMP3_2
FAN_NG_B
FAN_ON_B
FAN_CONT1
V+3_3V_TEMP
FAN_CONT2
GND
TEMP3_1
V+12V_A
V+12V_A
CN8301
AKM1200-
I01
CN4201
AKP1328- -TBB
M4
TO SPEAKER
JA8551
AKE1067-
R+
R-
L-
L+
M15
CN4105
KM200NA6
M11
CN4104
KM200NA7
CN8001
AKP1330-
J117(6/3/3)
ADX3705-
GND
REM
V+3_4V_STB_MAIN
V+3_4V_ACT
RLS
GND
J116(7/6)
ADX3704-
GND
GND
GND
LED_ORANGE
LED_RED
LED_BLUE
GND
COLOR SENSOR MODUL
AXF1194-
KRP-600P/WYS
KRP-600P/WYS
KRP-600P/WA5
CN2101
KM200NA3
RE1
IR ASS'Y
AWV2591-
AWW1400
CN2701
AKM1422- -TBB
RL1
RLS ASS'Y
AWV2591-
AWW1401
CN2001
AKM1425- -TBB
L1
LED ASS'Y
(SEPA 60 50)
AWV2591-
AWW1399


FAN MOTOR 80*15L
FAN MOTOR 75*12L
AXM1065-
AXM1065-
AXM1065-
AXM1065-
AXM1066-
J130 (9/3/3) ADX3666-
J131 (7/3/3) ADX3667-
FAN_VCC1
FAN_NG_A
GND
FAN_VCC2
FAN_NG_B
CN3302 AKM1369-
CN3301 AKM1367-
FA2
FA1
FA3
J120(6) ADX3701-
CN3304 KM200NA6
FAN CH ASS'Y(SEPA MON)
AWV2591-
AWW1397
J211 (40) ADD1582-
D12
J212 (50) ADD1583-
D11
TO DIGITAL ASS'Y
SENS ASS'Y (SEPA MON)
AWV2590-
AWW1396
TM3
CN2401 AKM1274- -TBB
J134(3) ADX3703-
V+3_3V_TEMP_B
TEMP3_2
GND
DET_CS
RXD_CS
GND
TXD_CS
GND
RTS_CS
J140 (6) ADX3700- (Cross Cable)
D26
CN1203 KM200NA3
F3
CN1202 KM200NA6
F2
J133(13) ADX3702-
GND
FAN_NG_A
FAN_ON_A
TEMP3_2
FAN_NG_B
FAN_ON_B
FAN_CONT1
V+3_3V_TEMP
FAN_CONT2
GND
TEMP3_1
V+12V_A
V+12V_A
CN1201 KM200NA13
F1
FAN ASS'Y (SEPA MON)
AWV2590-
AWW1394

SENSOR MODULE

4-

KRP-600P/WYS5	Attached
KRP-600P/WYSIXK5	
KRP-600P/WA5	Optional

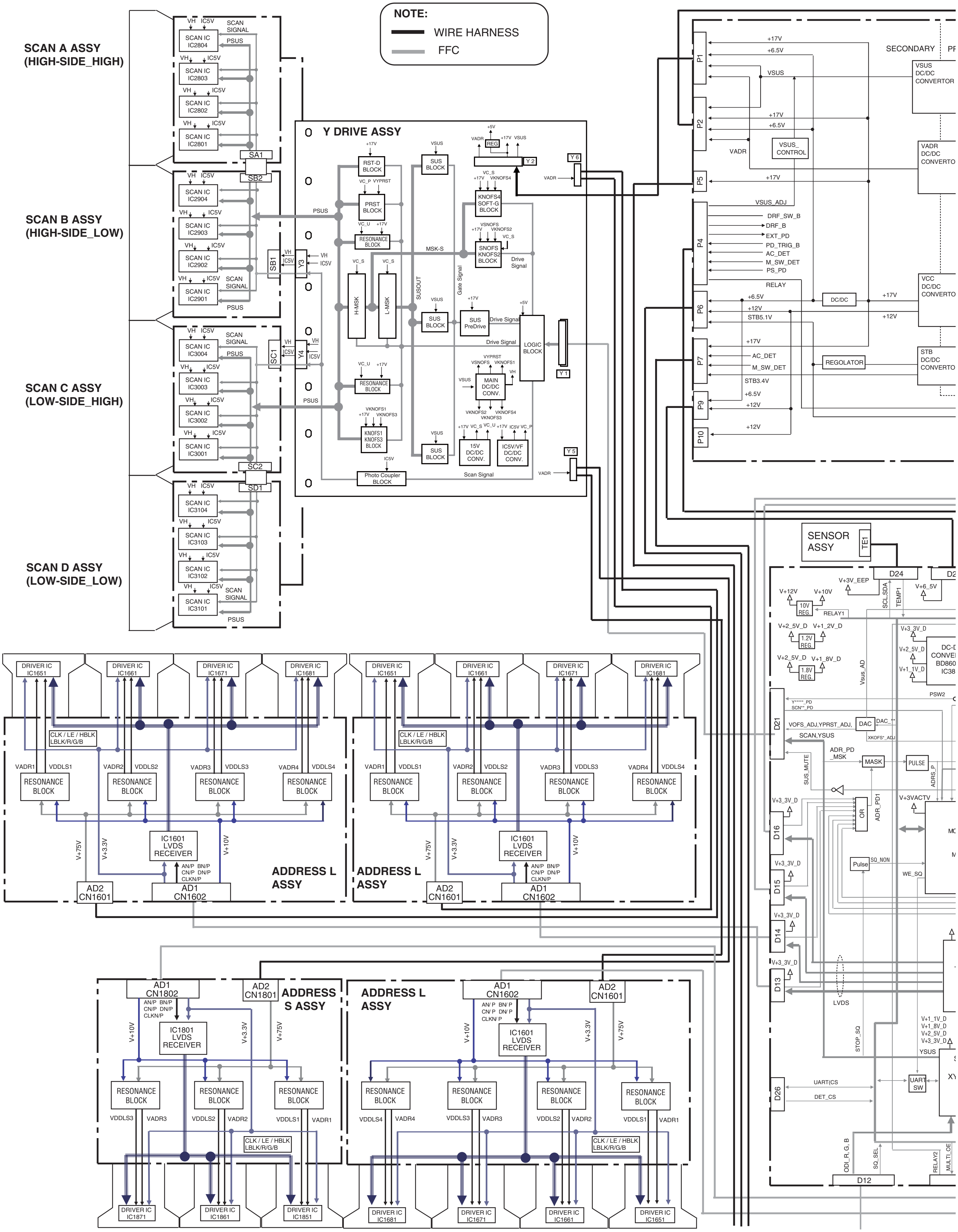
CONNECTOR PIN ASSIGN

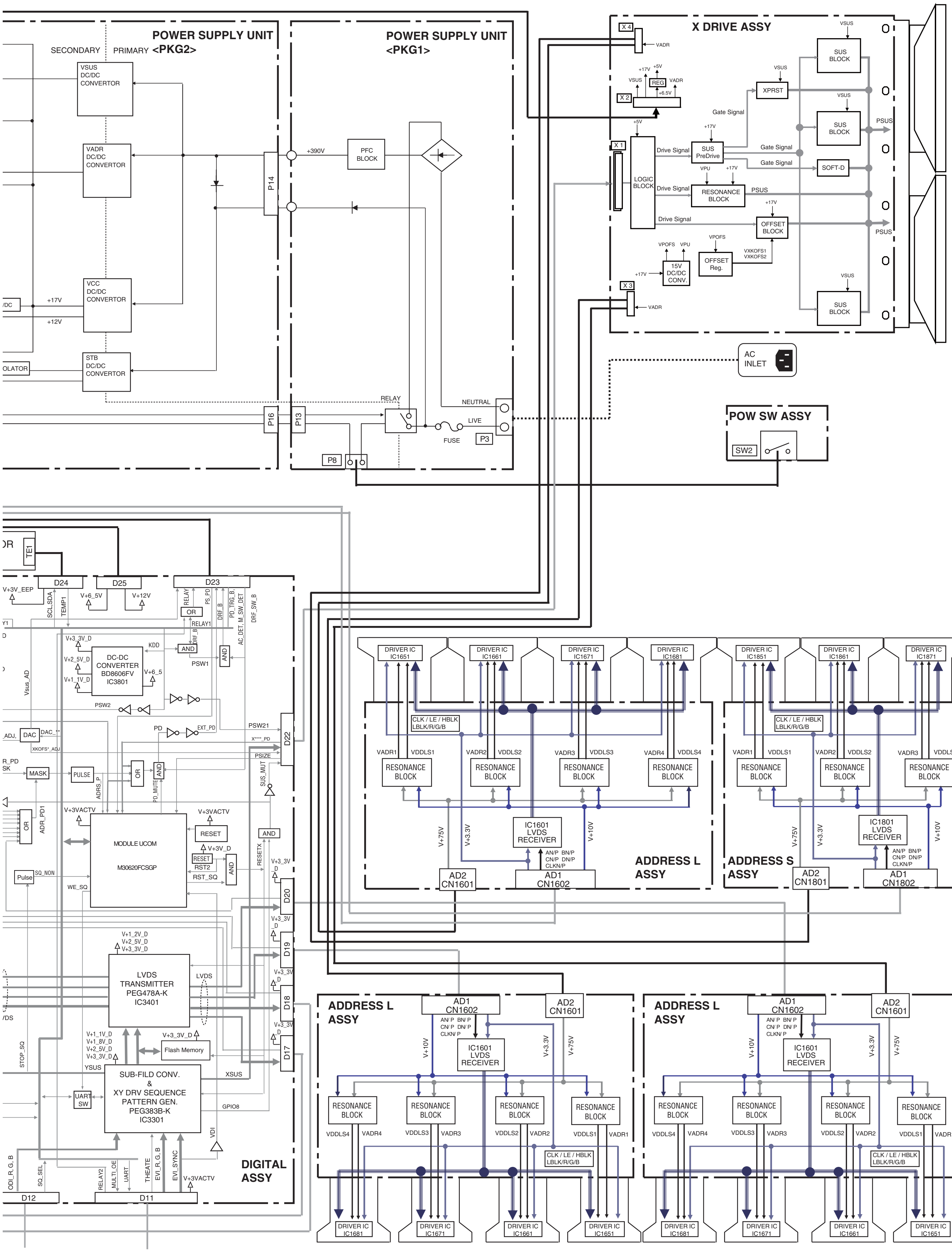
CN4201 M4 → CN8301 I01

1. V+6_5V
2. GND
3. MCLK
4. GND
5. LRCK
6. SCLK
7. SDIN
8. RST_5504
9. AC_A_MUTE
10. A_NG_B
11. OTW
12. PDN
13. SDA_AV
14. SCL_AV
15. GND

The ⚠ mark found on some component parts
should be replaced with same parts
(safety regulation authorized) of identical designation.

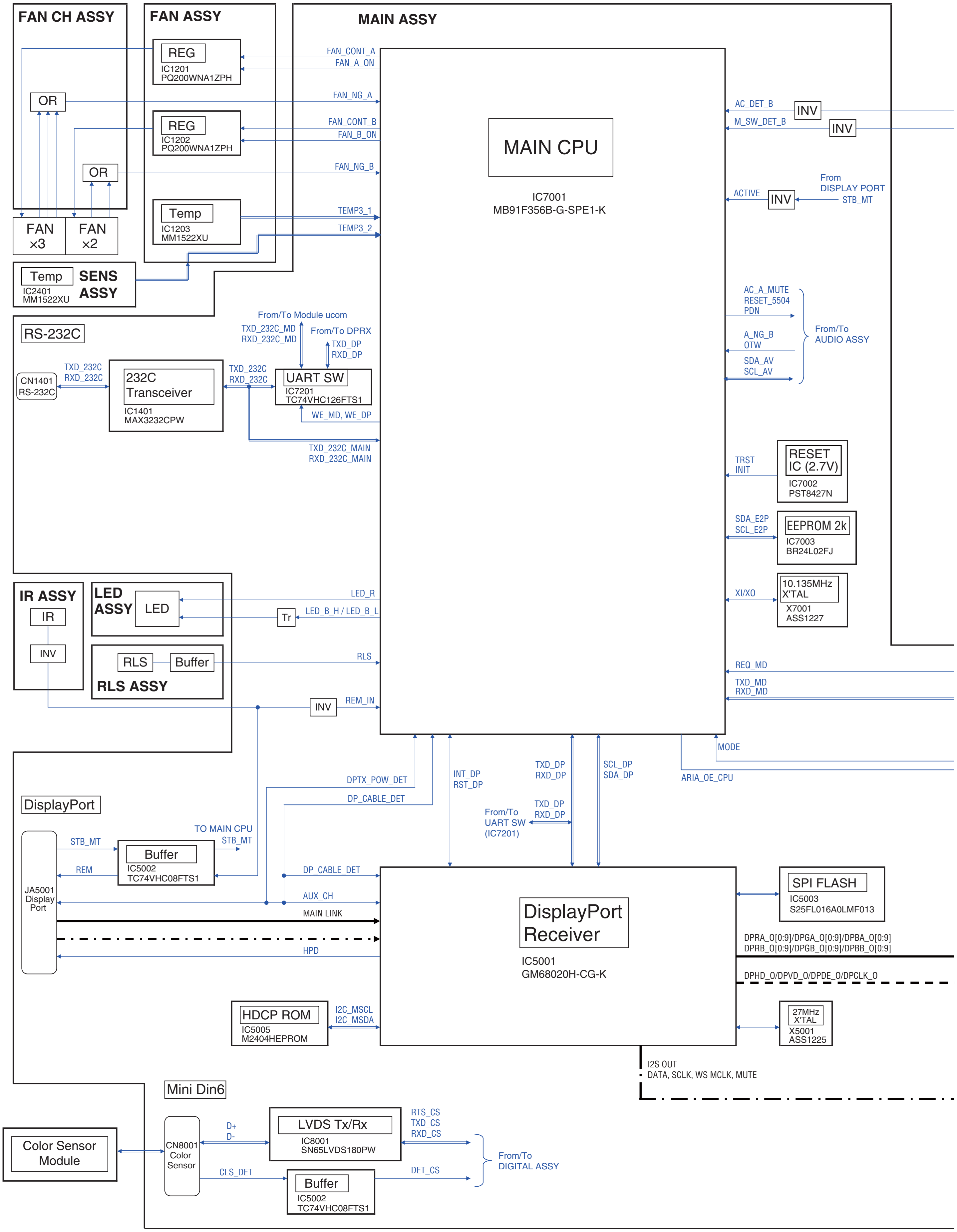
4.3 OVERALL BLOCK DIAGRAM (1/2)


NOTE:
WIRE HARNESS
FFC
SCAN A ASSY (HIGH-SIDE_HIGH)
SCAN B ASSY (HIGH-SIDE_LOW)
SCAN C ASSY (LOW-SIDE_HIGH)
SCAN D ASSY (LOW-SIDE_LOW)
SCAN IC IC2804
SCAN IC IC2803
SCAN IC IC2802
SCAN IC IC2801
SCAN IC IC2904
SCAN IC IC2903
SCAN IC IC2902
SCAN IC IC2901
SCAN IC IC3004
SCAN IC IC3003
SCAN IC IC3002
SCAN IC IC3001
SCAN IC IC3104
SCAN IC IC3103
SCAN IC IC3102
SCAN IC IC3101
VH
IC5V
SCAN SIGNAL
PSUS
SA1
SB2
SB1
SC1
SC2
SD1
Y3
Y4
Y DRIVE ASSY
RST-D BLOCK
PRST BLOCK
RESONANCE BLOCK
SUS BLOCK
KNOFS4 SOFT-G BLOCK
SNOFS KNOFS2 BLOCK
KNOFS1 KNOFS3 BLOCK
H-MSK
L-MSK
SUSOUT
Gate Signal
MSK-S
Drive Signal
SUS PreDrive
LOGIC BLOCK
MAIN DC/DC CONV.
15V DC/DC CONV.
IC5V/VF DC/DC CONV.
Photo Coupler BLOCK
Scan Signal
REG
VADR
VSUS
+17V
+5V
VC_S
VC_P
VC_U
VYPRST
VKNOFS1
VKNOFS2
VKNOFS3
VKNOFS4
VSNOFS
Y 1
Y 2
Y 5
Y 6
P1
P2
P5
P4
P6
P7
P9
P10
+17V
+6.5V
+12V
VSUS
VSUS_CONTROL
VSUS_ADJ
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
RELAY
STB5.1V
STB3.4V
DC/DC
REGOLATOR
SECONDARY
VSUS DC/DC CONVERTOR
VADR DC/DC CONVERTO
VCC DC/DC CONVERTO
STB DC/DC CONVERTO
SENSOR ASSY
TE1
D24
D21
D16
D15
D14
D13
D26
D12
V+3V_EEP
V+12V
V+10V
V+6_5V
10V REG.
RELAY1
SCL_SDA
TEMP1
V+2_5V_D
V+1_2V_D
1.2V REG.
V+1_8V_D
1.8V REG.
V+3_3V_D
V+1_1V_D
DC-D CONVE BD860 IC38
Vsus_AD
PSW2
VOFS_ADJ,YPRST_ADJ,
DAC
XKOFS*_ADJ
SCAN,YSUS
ADR_PD _MSK
MASK
PULSE
SUS_MUTE
ADRS_P
OR
ADR_PD1
V+3VACTV
Pulse
SQ_NON
WE_SQ
LVDS
STOP_SQ
YSUS
UART(CS
DET_CS
UART SW
ODI_R, G, B
SQ_SEL
RELAY2
MULTI_OE
DRIVER IC IC1651
DRIVER IC IC1661
DRIVER IC IC1671
DRIVER IC IC1681
CLK / LE / HBLK LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
V+75V
V+3.3V
V+10V
IC1601 LVDS RECEIVER
AN/P BN/P CN/P DN/P CLKN/P
AD2 CN1601
AD1 CN1602
ADDRESS L ASSY
AD1 CN1802
AD2 CN1801
ADDRESS S ASSY
IC1801 LVDS RECEIVER
DRIVER IC IC1871
DRIVER IC IC1861
DRIVER IC IC1851

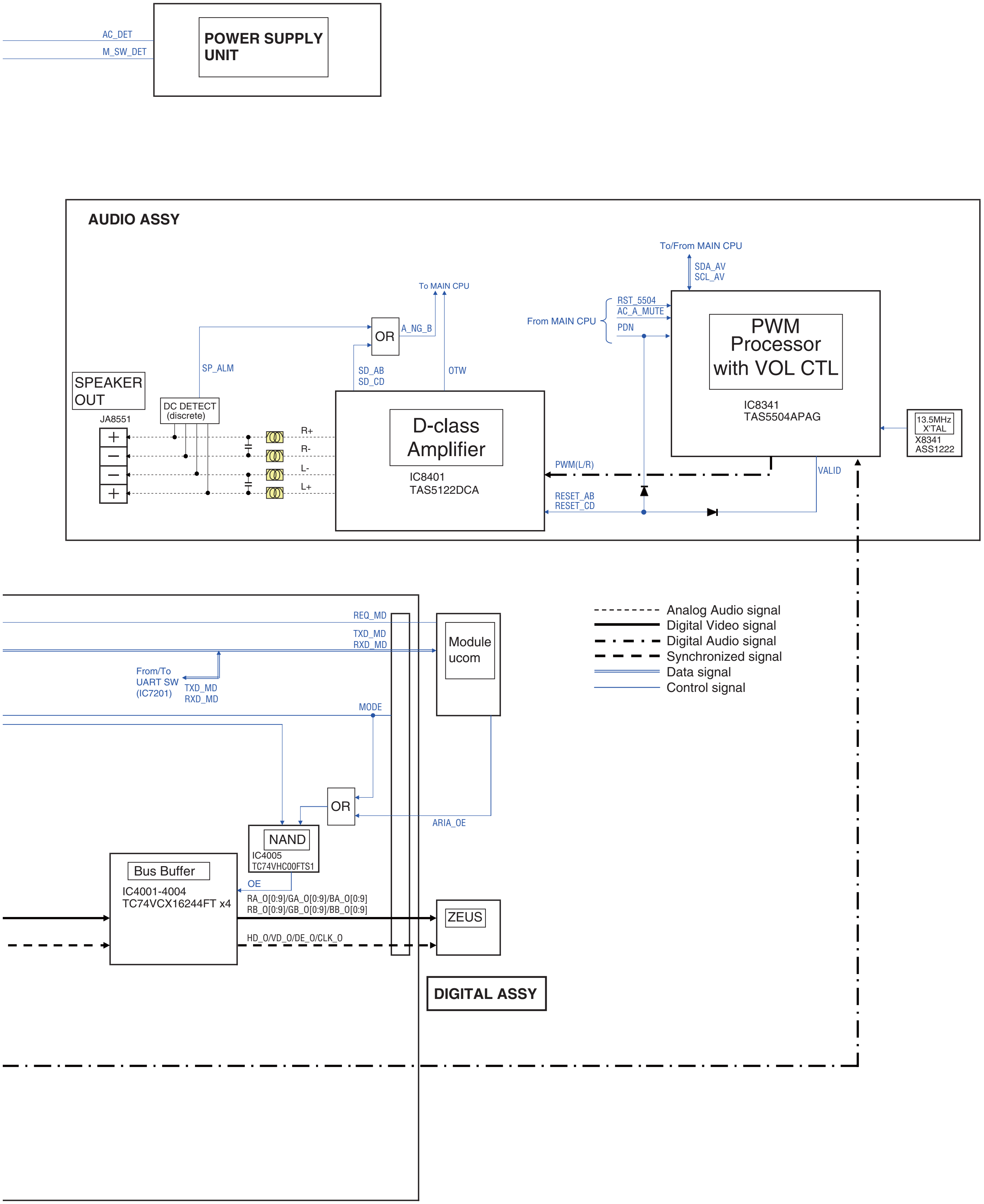


POWER SUPPLY UNIT
<PKG2>
SECONDARY
PRIMARY
VSUS DC/DC CONVERTOR
VADR DC/DC CONVERTOR
VCC DC/DC CONVERTOR
STB DC/DC CONVERTOR
/DC
+17V
+12V
OLATOR
P14
P16
P13
P8
POWER SUPPLY UNIT
<PKG1>
+390V
PFC BLOCK
RELAY
NEUTRAL
LIVE
FUSE
P3
X DRIVE ASSY
X 4
X 2
X 1
X 3
VADR
+17V
+5V
VSUS
REG
+6.5V
LOGIC BLOCK
Drive Signal
SUS PreDrive
VPU
RESONANCE BLOCK
PSUS
OFFSET BLOCK
VPOFS
OFFSET Reg.
15V DC/DC CONV.
VXKOFS1
VXKOFS2
XPRST
Gate Signal
SUS BLOCK
SOFT-D
AC INLET
POW SW ASSY
SW2
TE1
OR
D24
D25
D23
V+3V_EEP
SCL,SDA
TEMP1
V+6_5V
V+12V
RELAY
PS_PD
DRF_B
PD_TRG_B
AC_DET_M_SW_DET
DRF_SW_B
RELAY1
V+3_3V_D
V+2_5V_D
V+1_1V_D
KDD
AND
DC-DC CONVERTER BD8606FV IC3801
V+6_5
PSW1
Vsus_AD
PSW2
PD
EXT_PD
PSW21
PSIZE
SUS_MUT
D22
ADJ,
DAC
XKOFS*_ADJ
R_PD
SK
MASK
PULSE
ADRS_P
PD_MUTE
V+3VACTV
ADR_PD1
MODULE UCOM
M30620FCSGP
RESET
V+3V_D
RST2
RST_SQ
RESETX
V+3_3V_D
Pulse
SQ_NON
WE_SQ
D20
D19
D18
D17
V+1_2V_D
V+2_5V_D
LVDS TRANSMITTER PEG478A-K IC3401
LVDS
/DS
STOP_SQ
V+1_1V_D
V+1_8V_D
Flash Memory
YSUS
UART SW
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN. PEG383B-K IC3301
XSUS
GPIO8
VDI
ODI_R,G,B
SQ_SEL
RELAY2
MULTI_OE
UART
THEATE
EVI_R,G,B
EVI_SYNC
D12
D11
DIGITAL ASSY
DRIVER IC IC1651
DRIVER IC IC1661
DRIVER IC IC1671
DRIVER IC IC1681
DRIVER IC IC1851
DRIVER IC IC1861
DRIVER IC IC1871
CLK / LE / HBLK LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
V+75V
V+3.3V
V+10V
IC1601 LVDS RECEIVER
IC1801 LVDS RECEIVER
AN/P BN/P CN/P DN/P CLKN/P
AD2 CN1601
AD1 CN1602
ADDRESS L ASSY
ADDRESS S ASSY
AD2 CN1801
AD1 CN1802

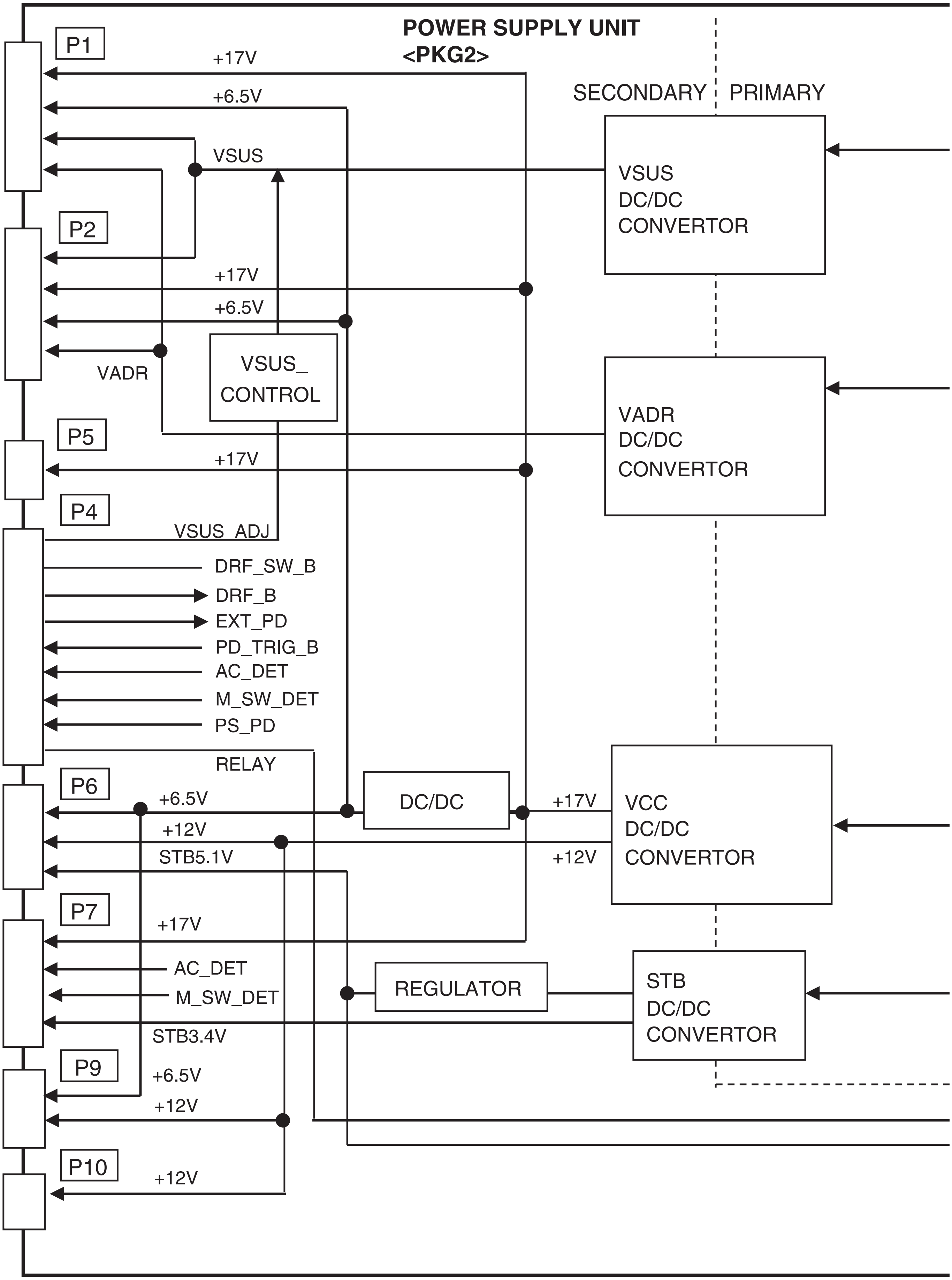
4.4 OVERALL BLOCK DIAGRAM (2/2)

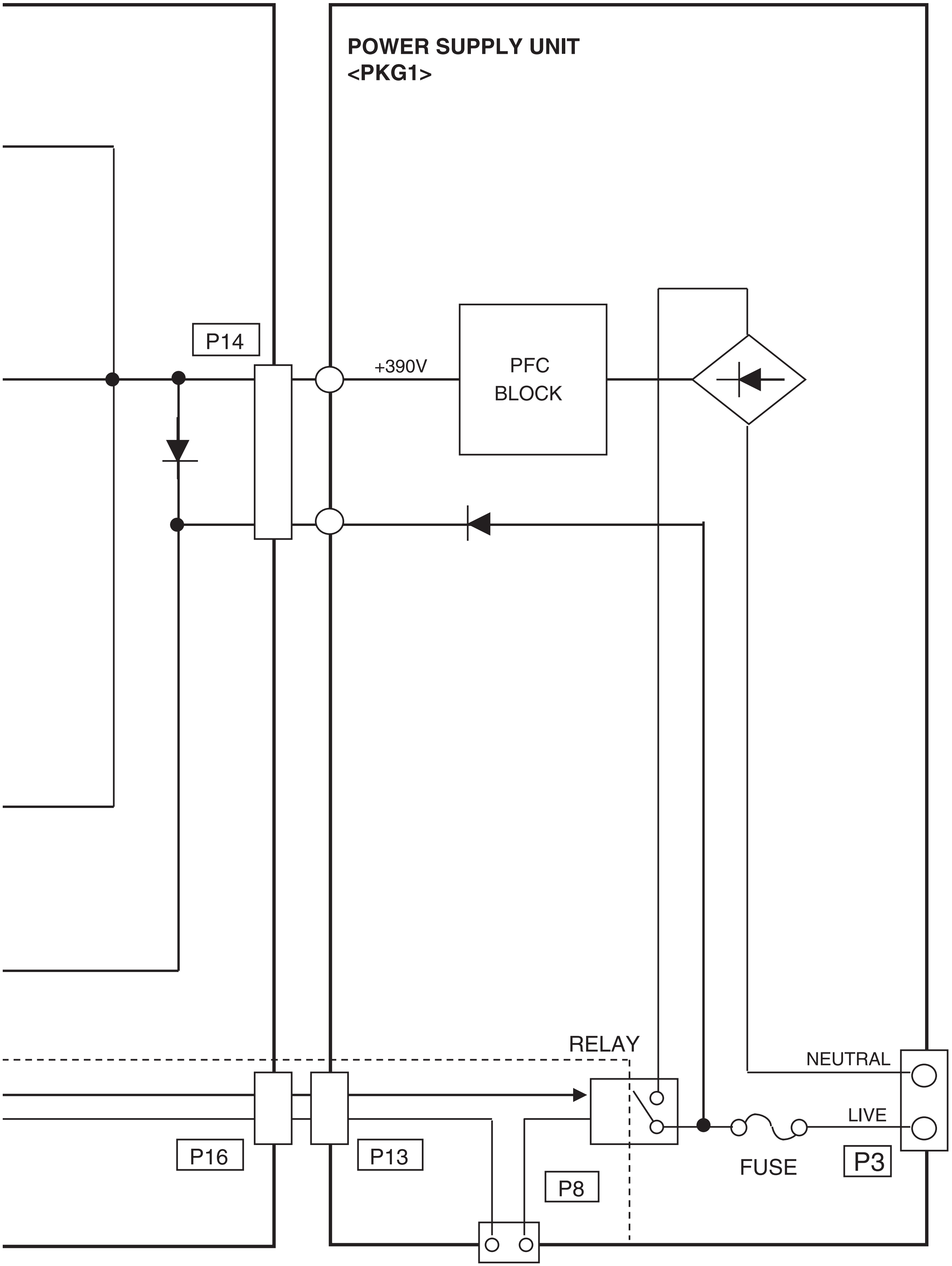


FAN CH ASSY
FAN ASSY
MAIN ASSY
REG
IC1201
PQ200WNA1ZPH
OR
REG
IC1202
PQ200WNA1ZPH
OR
Temp
IC1203
MM1522XU
FAN ×3
FAN ×2
Temp
IC2401
MM1522XU
SENS ASSY
FAN_CONT_A
FAN_A_ON
FAN_NG_A
FAN_CONT_B
FAN_B_ON
FAN_NG_B
TEMP3_1
TEMP3_2
MAIN CPU
IC7001
MB91F356B-G-SPE1-K
AC_DET_B
INV
M_SW_DET_B
INV
ACTIVE
INV
From DISPLAY PORT
STB_MT
AC_A_MUTE
RESET_5504
PDN
A_NG_B
OTW
SDA_AV
SCL_AV
From/To AUDIO ASSY
TRST
INIT
RESET IC (2.7V)
IC7002
PST8427N
SDA_E2P
SCL_E2P
EEPROM 2k
IC7003
BR24L02FJ
XI/XO
10.135MHz X'TAL
X7001
ASS1227
REQ_MD
TXD_MD
RXD_MD
MODE
ARIA_OE_CPU
RS-232C
CN1401
RS-232C
TXD_232C
RXD_232C
232C Transceiver
IC1401
MAX3232CPW
TXD_232C
RXD_232C
From/To Module ucom
TXD_232C_MD
RXD_232C_MD
From/To DPRX
TXD_DP
RXD_DP
UART SW
IC7201
TC74VHC126FTS1
WE_MD, WE_DP
TXD_232C_MAIN
RXD_232C_MAIN
IR ASSY
IR
INV
LED ASSY
LED
LED_R
Tr
LED_B_H / LED_B_L
RLS
Buffer
RLS ASSY
RLS
INV
REM_IN
DisplayPort
JA5001
Display Port
STB_MT
Buffer
IC5002
TC74VHC08FTS1
TO MAIN CPU
STB_MT
REM
DPTX_POW_DET
DP_CABLE_DET
INT_DP
RST_DP
TXD_DP
RXD_DP
SCL_DP
SDA_DP
From/To UART SW (IC7201)
TXD_DP
RXD_DP
DP_CABLE_DET
AUX_CH
MAIN LINK
HPD
DisplayPort Receiver
IC5001
GM68020H-CG-K
SPI FLASH
IC5003
S25FL016A0LMF013
DPRA_O[0:9]/DPGA_O[0:9]/DPBA_O[0:9]
DPRB_O[0:9]/DPGB_O[0:9]/DPBB_O[0:9]
DPHD_O/DPVD_O/DPDE_O/DPCLK_O
27MHz X'TAL
X5001
ASS1225
HDCP ROM
IC5005
M2404HEPROM
I2C_MSCL
I2C_MSDA
I2S OUT
DATA, SCLK, WS MCLK, MUTE
Mini Din6
Color Sensor Module
CN8001
Color Sensor
D+
D-
LVDS Tx/Rx
IC8001
SN65LVDS180PW
RTS_CS
TXD_CS
RXD_CS
CLS_DET
Buffer
IC5002
TC74VHC08FTS1
DET_CS
From/To DIGITAL ASSY

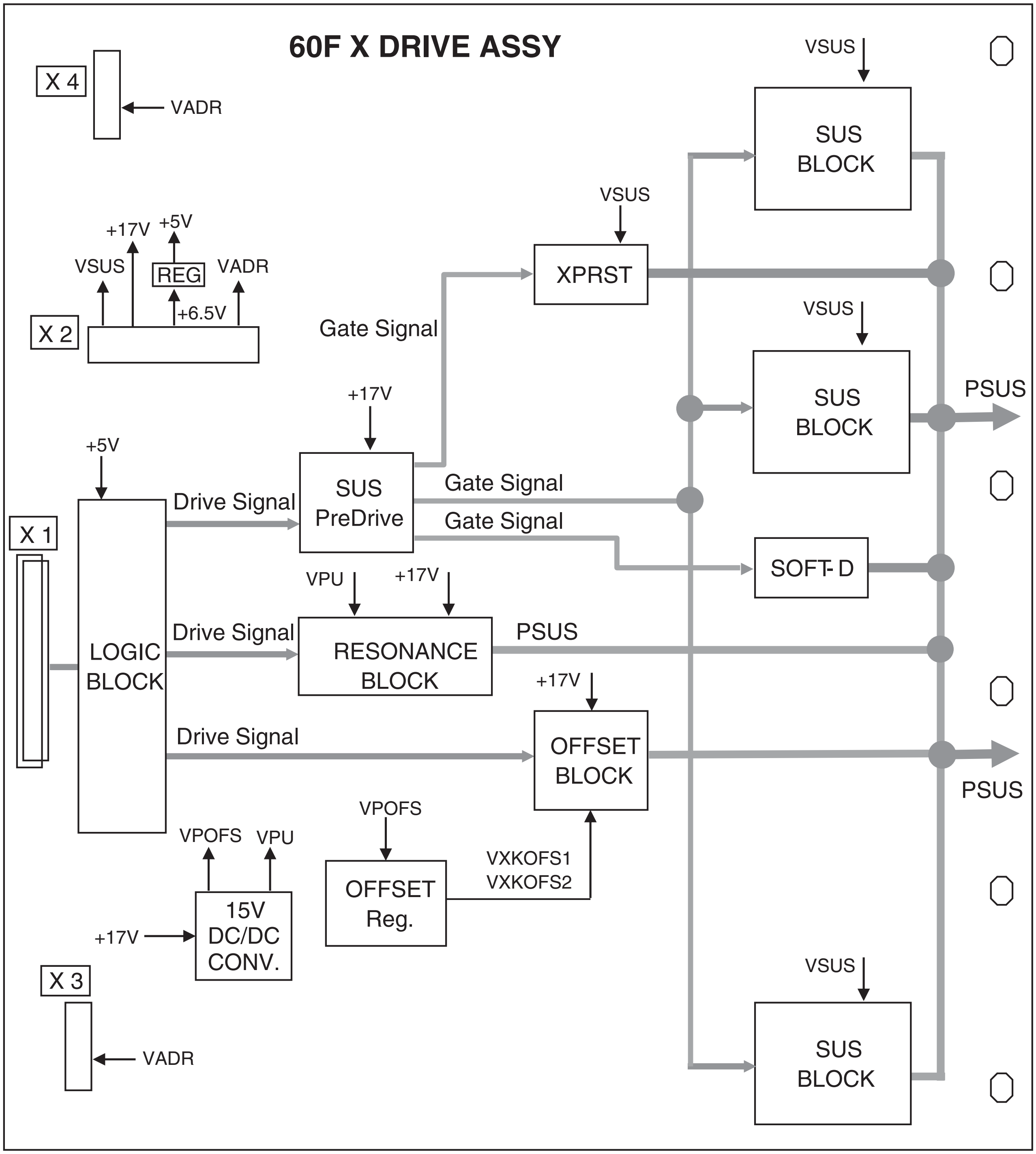

AC_DET
M_SW_DET
POWER SUPPLY UNIT
AUDIO ASSY
To/From MAIN CPU
SDA_AV
SCL_AV
To MAIN CPU
From MAIN CPU
RST_5504
AC_A_MUTE
PDN
PWM Processor with VOL CTL
IC8341
TAS5504APAG
13.5MHz X'TAL
X8341
ASS1222
OR
A_NG_B
SP_ALM
SD_AB
SD_CD
OTW
SPEAKER OUT
JA8551
DC DETECT (discrete)
R+
R-
L-
L+
D-class Amplifier
IC8401
TAS5122DCA
PWM(L/R)
VALID
RESET_AB
RESET_CD
REQ_MD
TXD_MD
RXD_MD
From/To UART SW (IC7201)
TXD_MD
RXD_MD
MODE
Module ucom
OR
ARIA_OE
NAND
IC4005
TC74VHC00FTS1
OE
Bus Buffer
IC4001-4004
TC74VCX16244FT x4
RA_O[0:9]/GA_O[0:9]/BA_O[0:9]
RB_O[0:9]/GB_O[0:9]/BB_O[0:9]
HD_O/VD_O/DE_O/CLK_O
ZEUS
DIGITAL ASSY
Analog Audio signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal

4.5 POWER SUPPLY UNIT

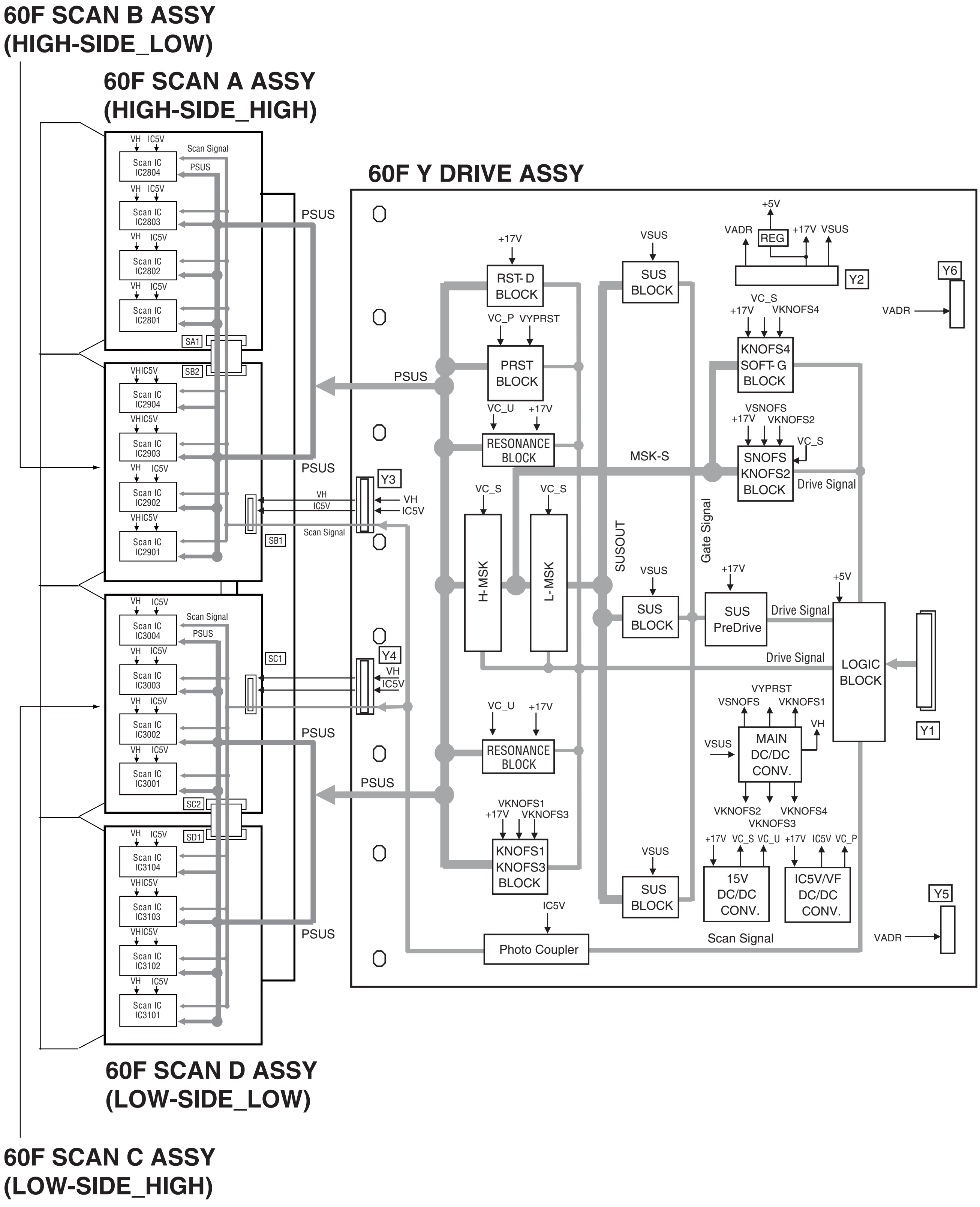

POWER SUPPLY UNIT
<PKG2>
SECONDARY
PRIMARY
P1
+17V
+6.5V
VSUS
VSUS
DC/DC
CONVERTOR
P2
+17V
+6.5V
VADR
VSUS_
CONTROL
VADR
DC/DC
CONVERTOR
P5
+17V
P4
VSUS_ADJ
DRF_SW_B
DRF_B
EXT_PD
PD_TRIG_B
AC_DET
M_SW_DET
PS_PD
RELAY
P6
+6.5V
DC/DC
+17V
VCC
DC/DC
CONVERTOR
+12V
STB5.1V
+12V
P7
+17V
AC_DET
REGULATOR
STB
DC/DC
CONVERTOR
M_SW_DET
STB3.4V
P9
+6.5V
+12V
P10
+12V


POWER SUPPLY UNIT
<PKG1>
P14
+390V
PFC
BLOCK
RELAY
NEUTRAL
LIVE
FUSE
P3
P16
P13
P8

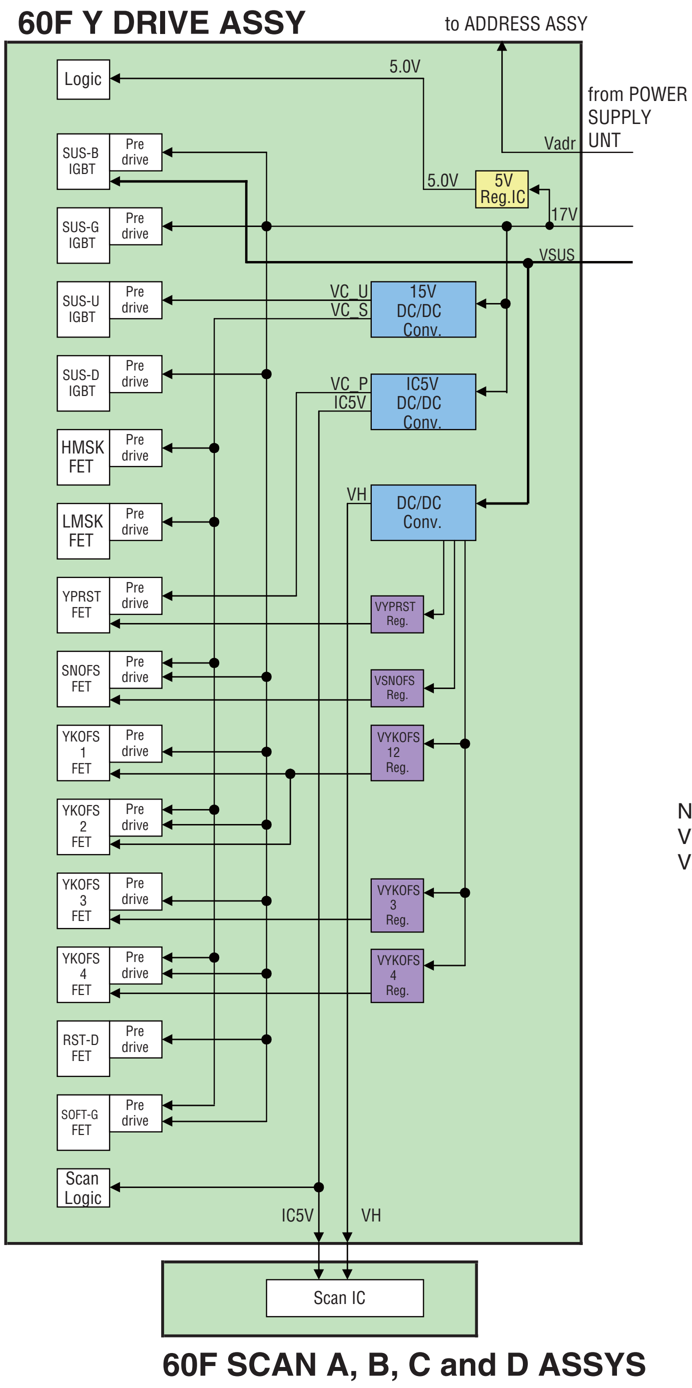
4.6 60F X DRIVE ASSY

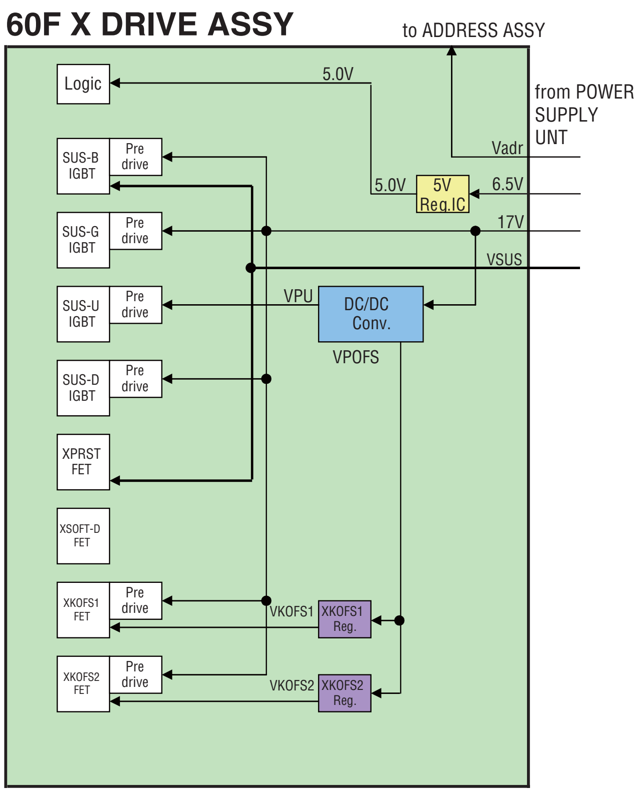

60F X DRIVE ASSY
X 4
VADR
X 2
VSUS
+17V
+5V
REG
+6.5V
VADR
X 1
+5V
LOGIC BLOCK
Drive Signal
Drive Signal
Drive Signal
+17V
SUS PreDrive
Gate Signal
Gate Signal
Gate Signal
VSUS
XPRST
VPU
+17V
RESONANCE BLOCK
PSUS
+17V
OFFSET BLOCK
VPOFS
VPU
15V DC/DC CONV.
+17V
VPOFS
OFFSET Reg.
VXKOFS1
VXKOFS2
X 3
VADR
VSUS
SUS BLOCK
VSUS
SUS BLOCK
PSUS
SOFT-D
PSUS
VSUS
SUS BLOCK

4.7 60F Y DRIVE, 60F SCAN A, B, C and D ASSYS


60F SCAN B ASSY
(HIGH-SIDE_LOW)
60F SCAN A ASSY
(HIGH-SIDE_HIGH)
60F Y DRIVE ASSY
60F SCAN D ASSY
(LOW-SIDE_LOW)
60F SCAN C ASSY
(LOW-SIDE_HIGH)
VH IC5V
Scan Signal
PSUS
Scan IC IC2804
Scan IC IC2803
Scan IC IC2802
Scan IC IC2801
SA1
SB2
VHIC5V
Scan IC IC2904
Scan IC IC2903
Scan IC IC2902
Scan IC IC2901
SB1
Scan IC IC3004
Scan IC IC3003
Scan IC IC3002
Scan IC IC3001
SC1
SC2
SD1
Scan IC IC3104
Scan IC IC3103
Scan IC IC3102
Scan IC IC3101
Y3
VH
IC5V
Scan Signal
Y4
PSUS
+17V
RST- D BLOCK
VC_P VYPRST
PRST BLOCK
VC_U +17V
RESONANCE BLOCK
VC_S
H- MSK
L- MSK
VC_U +17V
RESONANCE BLOCK
VKNOFS1
+17V VKNOFS3
KNOFS1 KNOFS3 BLOCK
IC5V
Photo Coupler
VSUS
SUS BLOCK
MSK-S
SUSOUT
Gate Signal
VSUS
SUS BLOCK
VSUS
SUS BLOCK
+5V
VADR
REG
+17V VSUS
Y2
Y6
VADR
VC_S
+17V VKNOFS4
KNOFS4 SOFT- G BLOCK
VSNOFS
+17V VKNOFS2
VC_S
SNOFS KNOFS2 BLOCK
Drive Signal
+17V
SUS PreDrive
Drive Signal
+5V
LOGIC BLOCK
Drive Signal
Y1
VYPRST
VSNOFS VKNOFS1
VH
VSUS
MAIN DC/DC CONV.
VKNOFS2 VKNOFS4
VKNOFS3
+17V VC_S VC_U +17V IC5V VC_P
15V DC/DC CONV.
IC5V/VF DC/DC CONV.
Scan Signal
Y5
VADR

4.8 POWER SUPPLY BLOCK of 60F X, Y DRIVE and 60F SCAN A, B, C and D ASSYS

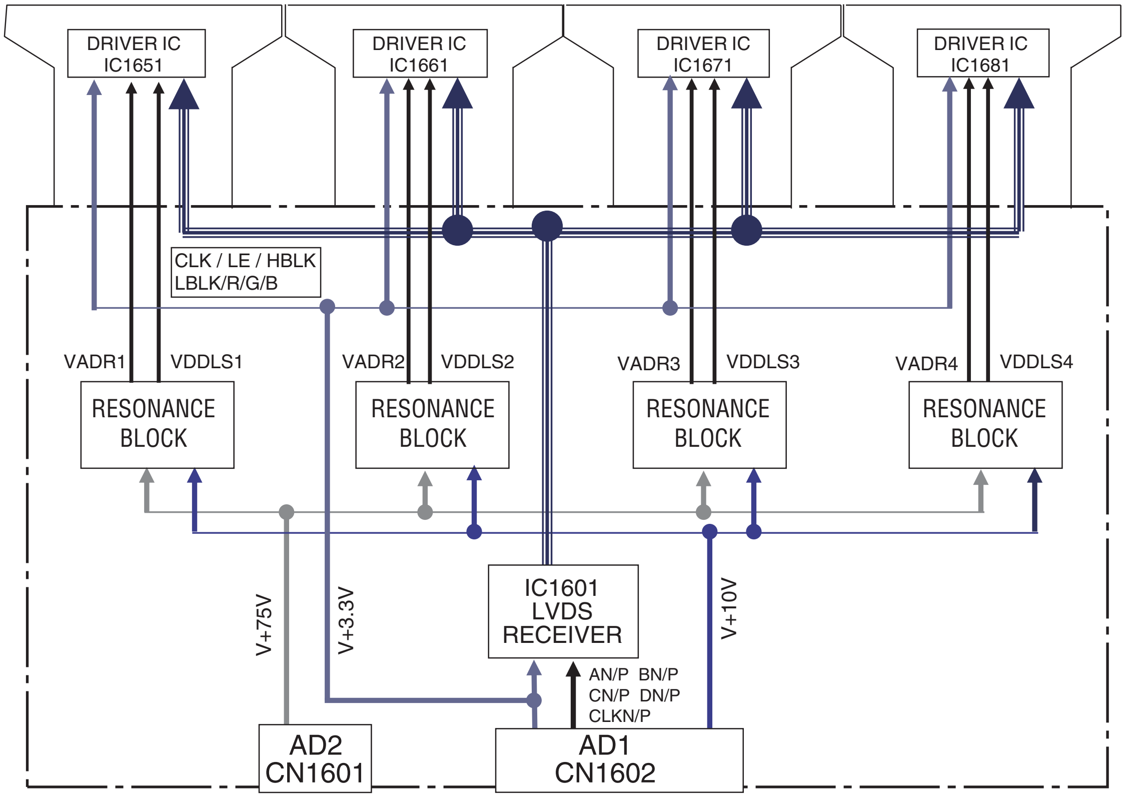

60F Y DRIVE ASSY
to ADDRESS ASSY
from POWER SUPPLY UNT
Logic
5.0V
Vadr
5.0V
5V Reg.IC
17V
VSUS
SUS-B IGBT
SUS-G IGBT
SUS-U IGBT
SUS-D IGBT
HMSK FET
LMSK FET
YPRST FET
SNOFS FET
YKOFS 1 FET
YKOFS 2 FET
YKOFS 3 FET
YKOFS 4 FET
RST-D FET
SOFT-G FET
Pre drive
VC_U
VC_S
15V DC/DC Conv.
VC_P
IC5V
IC5V DC/DC Conv.
VH
DC/DC Conv.
VYPRST Reg.
VSNOFS Reg.
VYKOFS 12 Reg.
VYKOFS 3 Reg.
VYKOFS 4 Reg.
Scan Logic
IC5V
VH
Scan IC
60F SCAN A, B, C and D ASSYS


60F X DRIVE ASSY
to ADDRESS ASSY
from POWER SUPPLY UNT
Logic
5.0V
Vadr
5.0V
5V Reg.IC
6.5V
17V
VSUS
SUS-B IGBT
SUS-G IGBT
SUS-U IGBT
SUS-D IGBT
XPRST FET
XSOFT-D FET
XKOFS1 FET
XKOFS2 FET
Pre drive
VPU
DC/DC Conv.
VPOFS
VKOFS1
XKOFS1 Reg.
VKOFS2
XKOFS2 Reg.

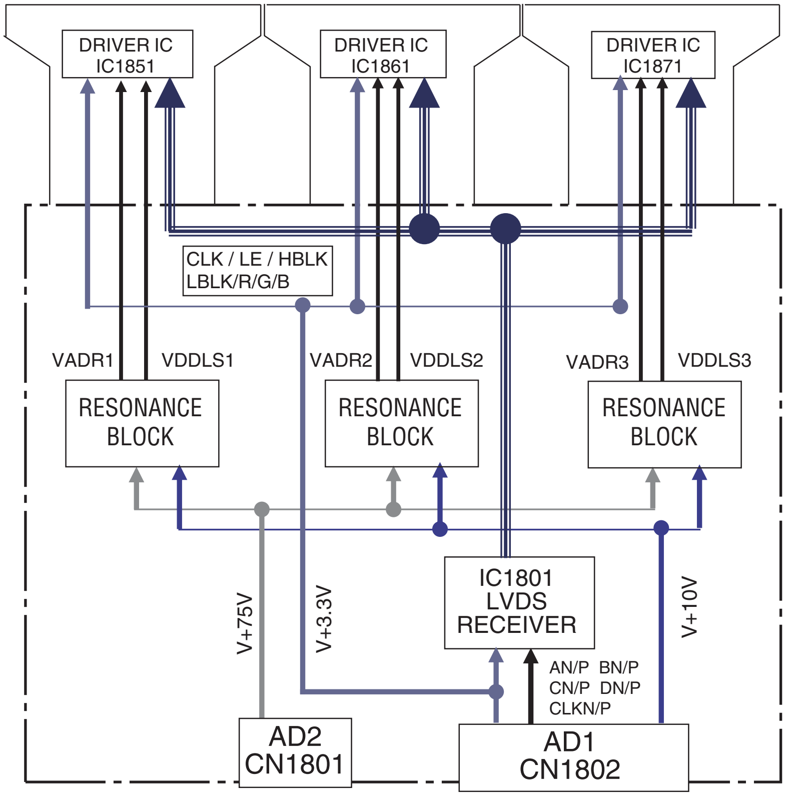
Note:
VYPRST, VSNOFS, VYKOFS12, VYKOFS3, VYKOFS4
VXKOFS1 and VXKOFS2 voltages are electrical volume controls.

4.9 60F ADDRESS L and S ASSYS

60F ADDRESS L ASSY

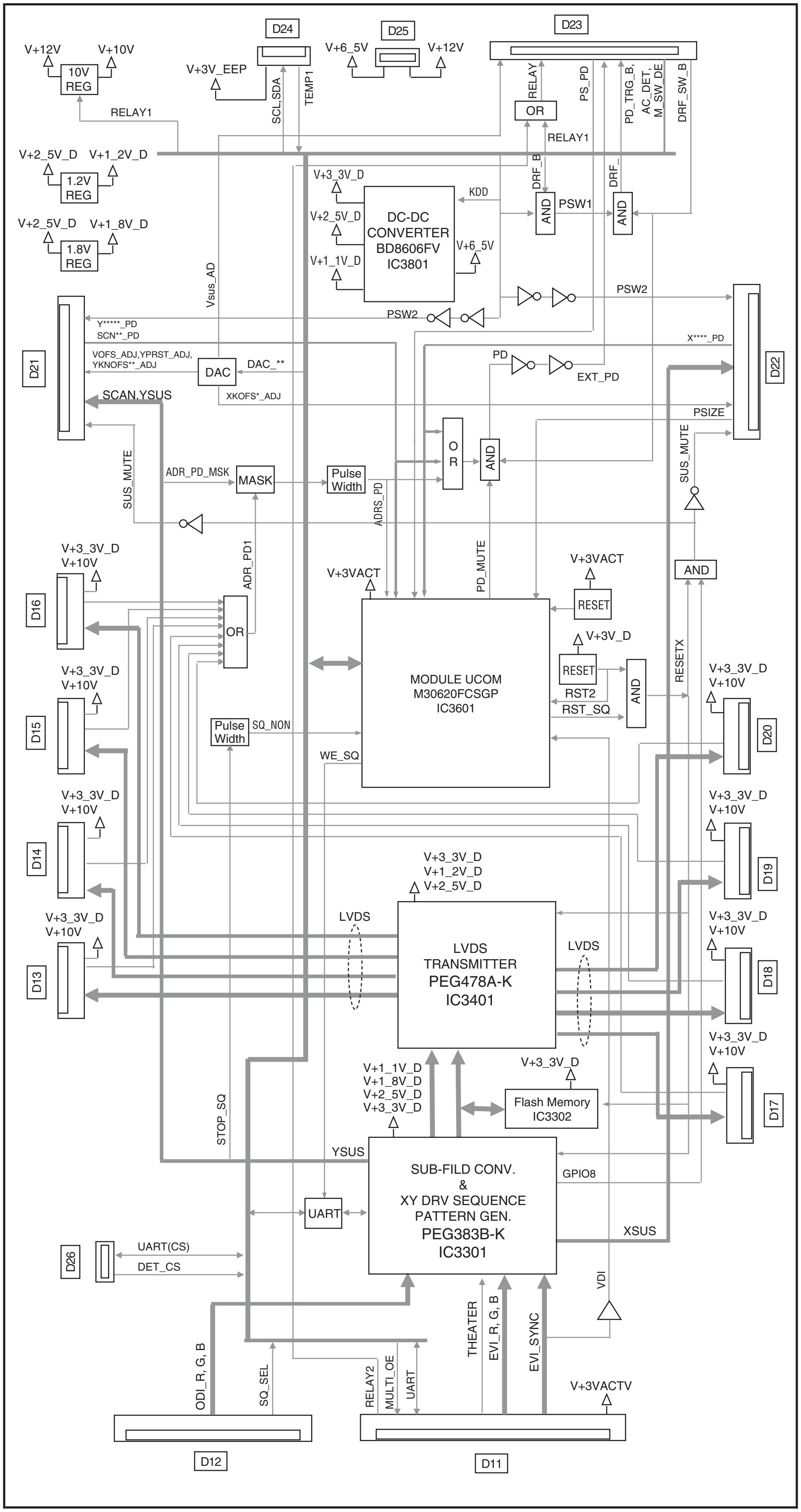

DRIVER IC
IC1651
DRIVER IC
IC1661
DRIVER IC
IC1671
DRIVER IC
IC1681
CLK / LE / HBLK
LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
VADR4
VDDLS4
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
V+75V
V+3.3V
IC1601
LVDS
RECEIVER
V+10V
AN/P BN/P
CN/P DN/P
CLKN/P
AD2
CN1601
AD1
CN1602

60F ADDRESS S ASSY

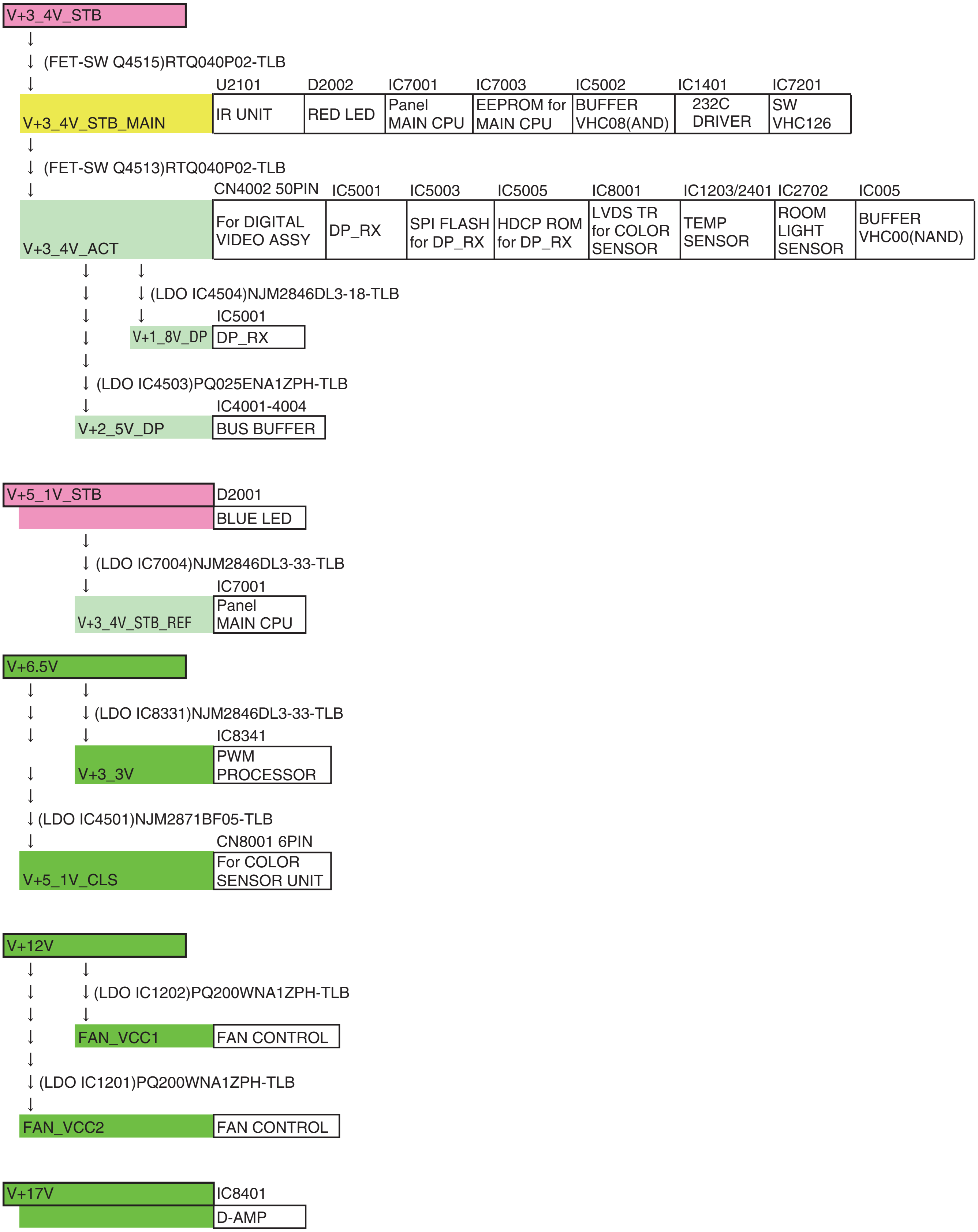

DRIVER IC
IC1851
DRIVER IC
IC1861
DRIVER IC
IC1871
CLK / LE / HBLK
LBLK/R/G/B
VADR1
VDDLS1
VADR2
VDDLS2
VADR3
VDDLS3
RESONANCE BLOCK
RESONANCE BLOCK
RESONANCE BLOCK
V+75V
V+3.3V
IC1801
LVDS
RECEIVER
V+10V
AN/P BN/P
CN/P DN/P
CLKN/P
AD2
CN1801
AD1
CN1802

4.10 60F DIGITAL ASSY

60F DIGITAL ASSY


D24
D25
D23
V+12V
V+10V
10V REG
V+3V_EEP
SCL,SDA
TEMP1
V+6_5V
V+12V
RELAY
OR
PS_PD
PD_TRG_B,
AC_DET,
M_SW_DE
DRF_SW_B
RELAY1
RELAY1
V+2_5V_D
V+1_2V_D
1.2V REG
V+2_5V_D
V+1_8V_D
1.8V REG
V+3_3V_D
V+2_5V_D
V+1_1V_D
DC-DC CONVERTER BD8606FV IC3801
KDD
V+6_5V
DRF_B
AND
PSW1
DRF_
AND
Vsus_AD
PSW2
PSW2
D21
Y*****_PD
SCN**_PD
VOFS_ADJ,YPRST_ADJ,
YKNOFS**_ADJ
DAC
DAC_**
XKOFS*_ADJ
SCAN.YSUS
X****_PD
PD
EXT_PD
D22
PSIZE
SUS_MUTE
ADR_PD_MSK
MASK
Pulse Width
ADRS_PD
O R
AND
SUS_MUTE
ADR_PD1
PD_MUTE
V+3VACT
V+3VACT
AND
RESET
D16
V+3_3V_D
V+10V
OR
V+3V_D
RESET
AND
RESETX
MODULE UCOM M30620FCSGP IC3601
RST2
RST_SQ
D15
V+3_3V_D
V+10V
Pulse Width
SQ_NON
WE_SQ
V+3_3V_D
V+10V
D20
D14
V+3_3V_D
V+10V
V+3_3V_D
V+1_2V_D
V+2_5V_D
V+3_3V_D
V+10V
D19
D13
V+3_3V_D
V+10V
LVDS
LVDS TRANSMITTER PEG478A-K IC3401
LVDS
V+3_3V_D
V+10V
D18
V+1_1V_D
V+1_8V_D
V+2_5V_D
V+3_3V_D
V+3_3V_D
Flash Memory IC3302
V+3_3V_D
V+10V
D17
STOP_SQ
YSUS
SUB-FILD CONV. & XY DRV SEQUENCE PATTERN GEN. PEG383B-K IC3301
GPIO8
UART
XSUS
D26
UART(CS)
DET_CS
VDI
ODI_R, G, B
SQ_SEL
RELAY2
MULTI_OE
UART
THEATER
EVI_R, G, B
EVI_SYNC
V+3VACTV
D12
D11

4.11 POWER SUPPLY BLOCK of MAIN and AUDIO ASSYS

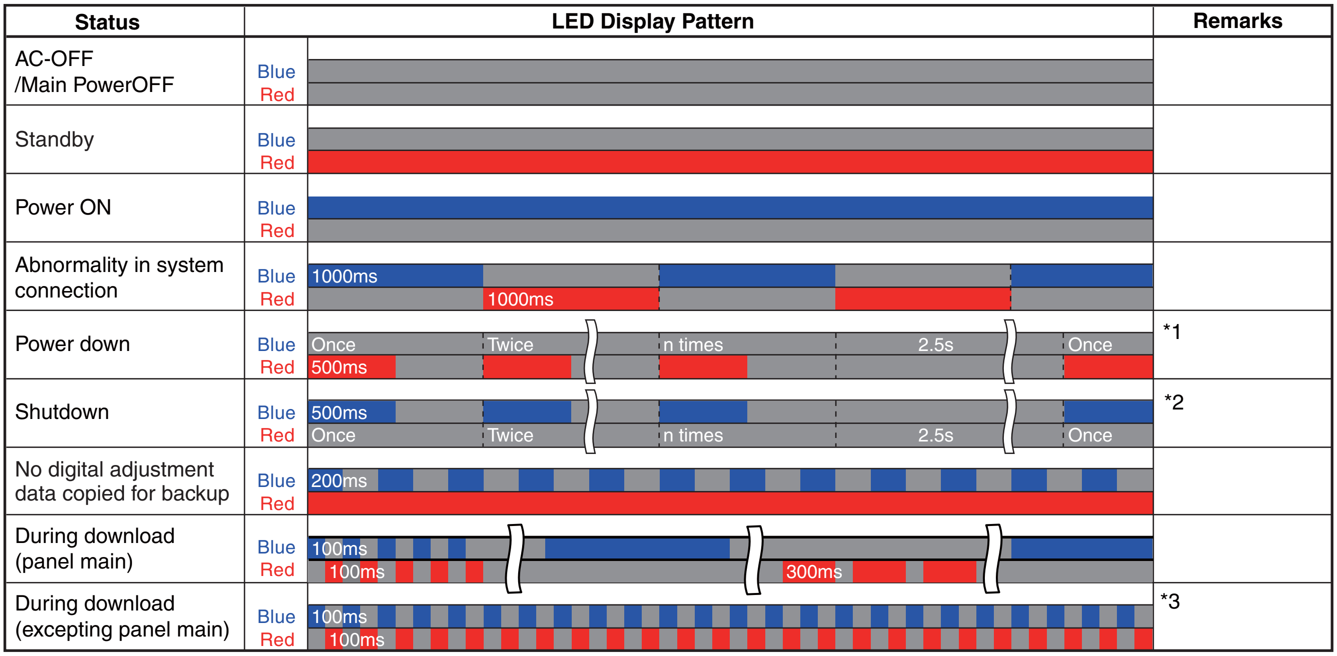

V+3_4V_STB
(FET-SW Q4515)RTQ040P02-TLB
V+3_4V_STB_MAIN
U2101
IR UNIT
D2002
RED LED
IC7001
Panel MAIN CPU
IC7003
EEPROM for MAIN CPU
IC5002
BUFFER VHC08(AND)
IC1401
232C DRIVER
IC7201
SW VHC126
(FET-SW Q4513)RTQ040P02-TLB
V+3_4V_ACT
CN4002 50PIN
For DIGITAL VIDEO ASSY
IC5001
DP_RX
IC5003
SPI FLASH for DP_RX
IC5005
HDCP ROM for DP_RX
IC8001
LVDS TR for COLOR SENSOR
IC1203/2401
TEMP SENSOR
IC2702
ROOM LIGHT SENSOR
IC005
BUFFER VHC00(NAND)
(LDO IC4504)NJM2846DL3-18-TLB
V+1_8V_DP
IC5001
DP_RX
(LDO IC4503)PQ025ENA1ZPH-TLB
V+2_5V_DP
IC4001-4004
BUS BUFFER
V+5_1V_STB
D2001
BLUE LED
(LDO IC7004)NJM2846DL3-33-TLB
V+3_4V_STB_REF
IC7001
Panel MAIN CPU
V+6.5V
(LDO IC8331)NJM2846DL3-33-TLB
V+3_3V
IC8341
PWM PROCESSOR
(LDO IC4501)NJM2871BF05-TLB
V+5_1V_CLS
CN8001 6PIN
For COLOR SENSOR UNIT
V+12V
(LDO IC1202)PQ200WNA1ZPH-TLB
FAN_VCC1
FAN CONTROL
(LDO IC1201)PQ200WNA1ZPH-TLB
FAN_VCC2
FAN CONTROL
V+17V
IC8401
D-AMP

5. DIAGNOSIS

5.1 POWER SUPPLY OPERATION

[1] LED DISPLAY INFORMATION

■ LED Pattern



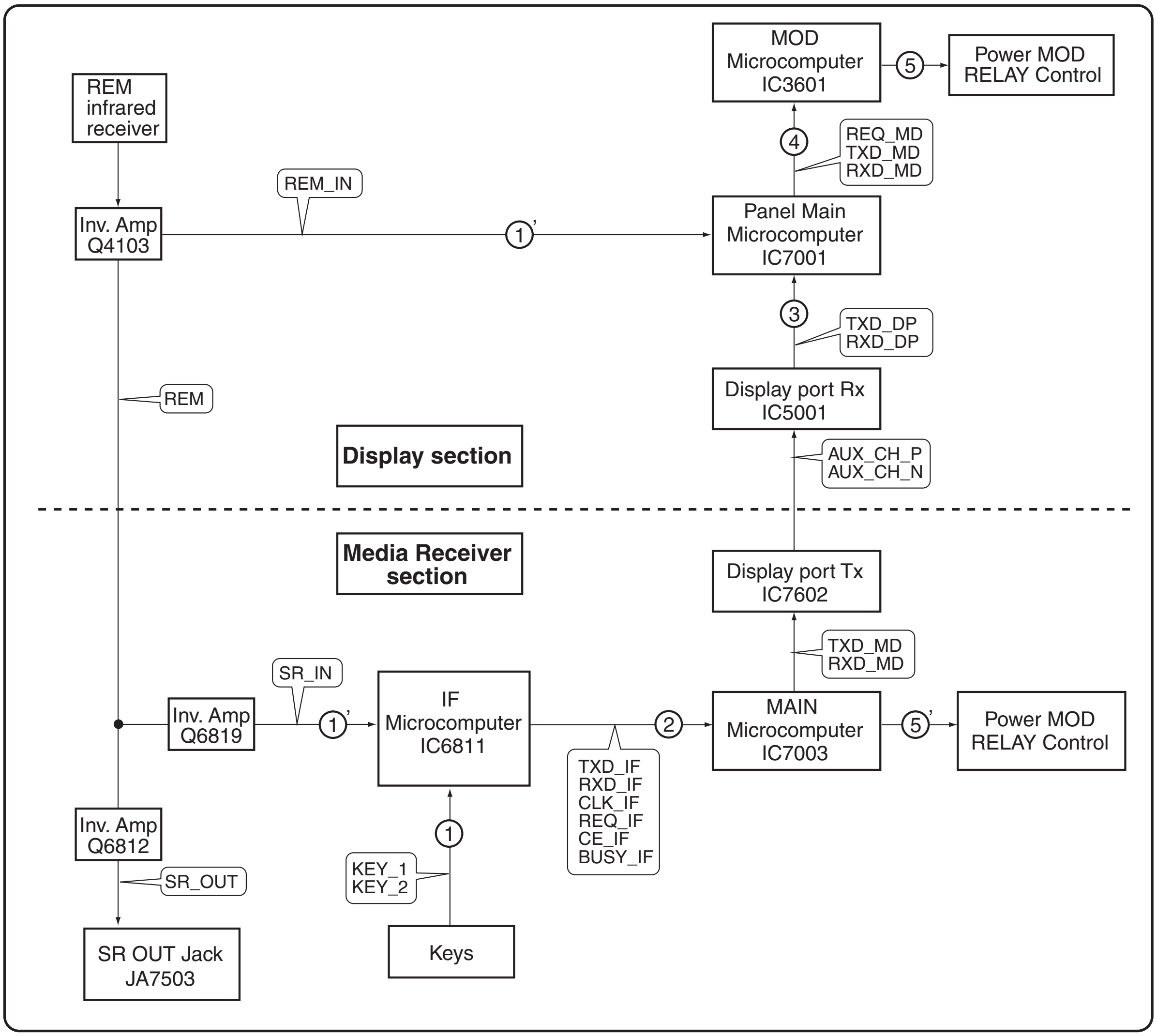
Status	LED Display Pattern		Remarks
AC-OFF /Main PowerOFF	Blue		
	Red		
Standby	Blue		
	Red		
Power ON	Blue		
	Red		
Abnormality in system connection	Blue	1000ms	
	Red	1000ms	
Power down	Blue	Once Twice n times 2.5s Once	*1
	Red	500ms	
Shutdown	Blue	500ms	*2
	Red	Once Twice n times 2.5s Once	
No digital adjustment data copied for backup	Blue	200ms	
	Red		
During download (panel main)	Blue	100ms	
	Red	100ms 300ms	
During download (excepting panel main)	Blue	100ms	*3
	Red	100ms	

*1: This LED only flashes when power-down is generated in the display unit.
When power-down is generated in the MR, the LED on the MR flashes.

*2: This LED only flashes when shutdown is generated in the display unit.
When shutdown is generated in the MR, the LED on the MR flashes.

*3: These LEDs only flash during rewriting of software in the display unit.
During rewriting of software in the MR, the LEDs on the MR flash.

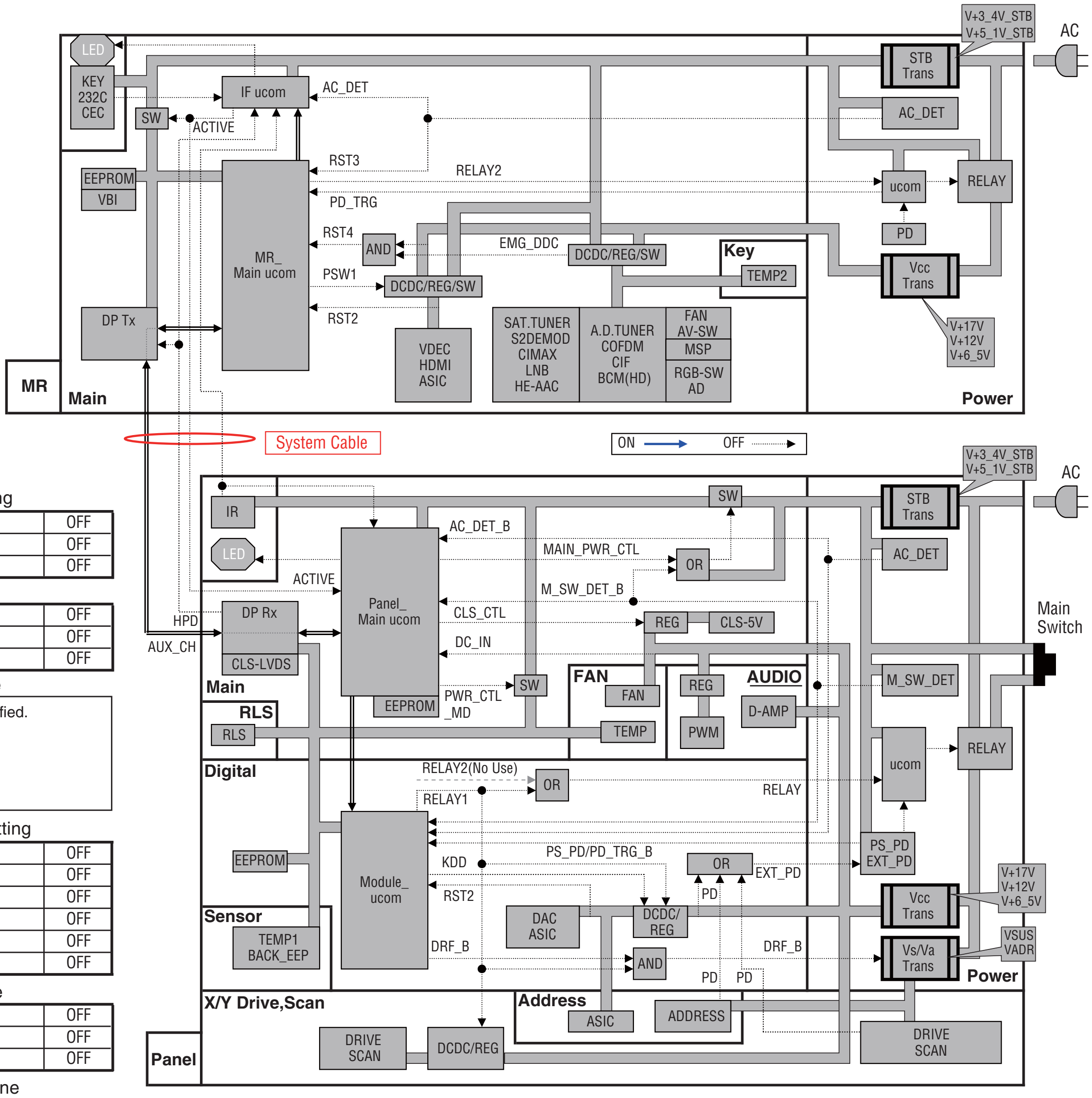
[2] POWER ON SEQUENCE


MOD Microcomputer IC3601
⑤
Power MOD RELAY Control
REM infrared receiver
④
REQ_MD
TXD_MD
RXD_MD
REM_IN
Inv. Amp Q4103
①'
Panel Main Microcomputer IC7001
③
TXD_DP
RXD_DP
REM
Display port Rx IC5001
Display section
AUX_CH_P
AUX_CH_N
Media Receiver section
Display port Tx IC7602
TXD_MD
RXD_MD
SR_IN
Inv. Amp Q6819
①'
IF Microcomputer IC6811
②
MAIN Microcomputer IC7003
⑤'
Power MOD RELAY Control
TXD_IF
RXD_IF
CLK_IF
REQ_IF
CE_IF
BUSY_IF
Inv. Amp Q6812
SR_OUT
①
KEY_1
KEY_2
SR OUT Jack JA7503
Keys

① : The KEY signal is input to the IF microcomputer.
①' : The remote control signal is input to the IF microcomputer and Panel main microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit key to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the panel main microcomputer through DP Tx and DP Rx.
④ : The panel main microcomputer issues a startup command (PON) to the MOD microcomputer.
⑤ : The MOD microcomputer controls a MOD relay of the POWER SUPPLY Unit (Display section), then the power is turned on.
⑤' : The main microcomputer controls a MOD relay of the POWER SUPPLY Unit (Media Receiver section), then the power is turned on.

[3] DETAILS OF POWER ON SEQUENCE

AC-OFF


V+3_4V_STB
V+5_1V_STB
AC
LED
KEY
232C
CEC
SW
ACTIVE
IF ucom
AC_DET
STB Trans
AC_DET
RST3
RELAY2
EEPROM
VBI
PD_TRG
ucom
RELAY
MR_
Main ucom
RST4
AND
EMG_DDC
DCDC/REG/SW
Key
TEMP2
PD
Vcc Trans
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
SW
IR
STB Trans
AC_DET_B
MAIN_PWR_CTL
OR
AC_DET
LED
ACTIVE
Panel_
Main ucom
M_SW_DET_B
CLS_CTL
REG
CLS-5V
Main
Switch
HPD
DP Rx
AUX_CH
DC_IN
CLS-LVDS
Main
SW
FAN
FAN
REG
AUDIO
M_SW_DET
EEPROM
PWR_CTL
_MD
D-AMP
RLS
RLS
TEMP
PWM
ucom
RELAY
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
PS_PD/PD_TRG_B
PS_PD
EXT_PD
KDD
OR
EXT_PD
Module_
ucom
RST2
PD
V+17V
V+12V
V+6_5V
Vcc Trans
Sensor
DAC
ASIC
DCDC/
REG
TEMP1
BACK_EEP
DRF_B
DRF_B
AND
Vs/Va Trans
VSUS
VADR
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

All devices are not electrified.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	OFF
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

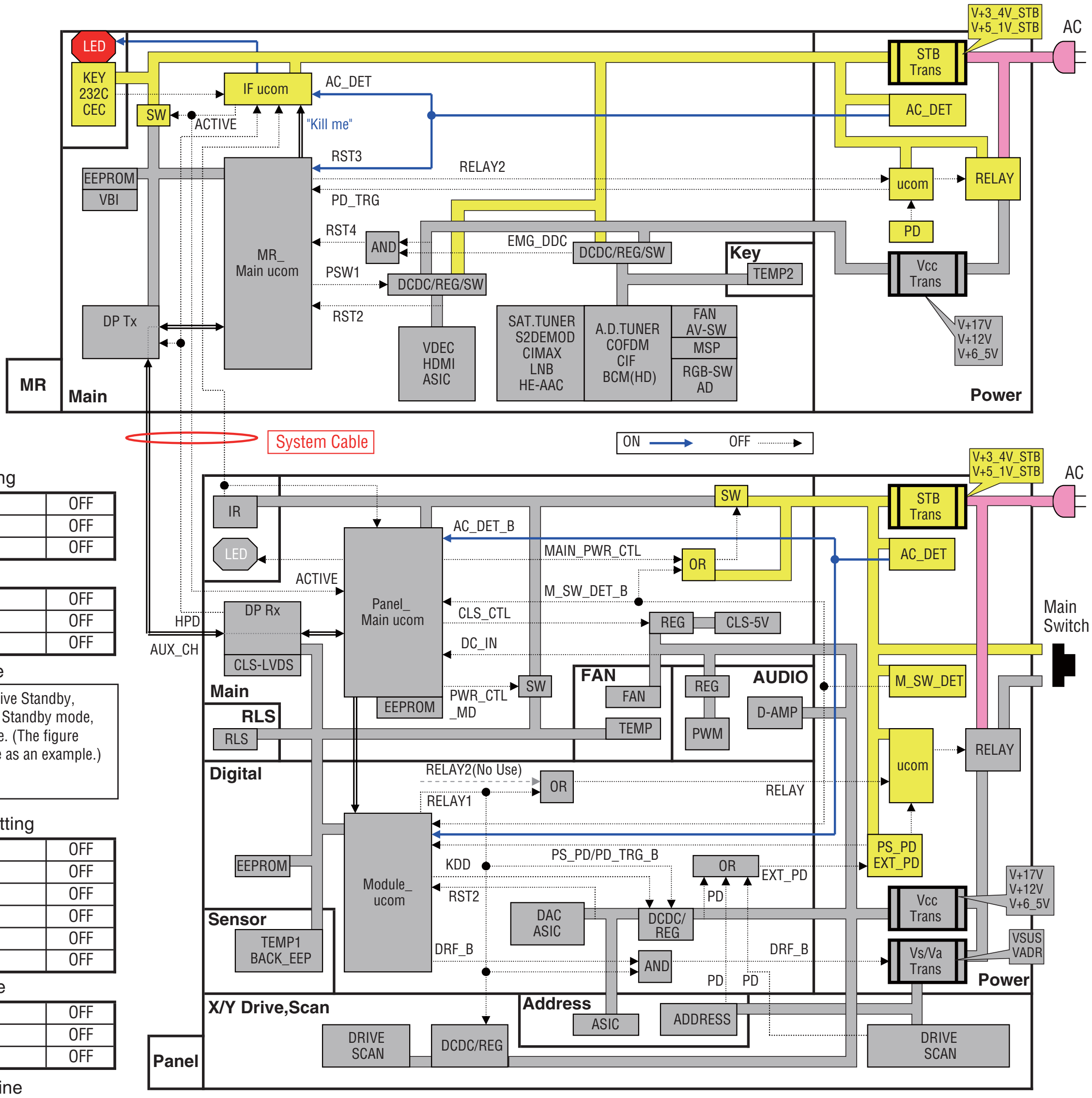
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

All devices are not electrified.

Panel Main Power OFF


LED
KEY
232C
CEC
SW
IF ucom
ACTIVE
AC_DET
"Kill me"
RST3
RELAY2
EEPROM
VBI
MR_
Main ucom
PD_TRG
RST4
AND
EMG_DDC
DCDC/REG/SW
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Power
MR
Main
System Cable
ON
OFF
IR
LED
AC_DET_B
MAIN_PWR_CTL
OR
SW
M_SW_DET_B
ACTIVE
Panel_
Main ucom
CLS_CTL
REG
CLS-5V
DP Rx
HPD
AUX_CH
CLS-LVDS
DC_IN
Main
PWR_CTL
_MD
SW
FAN
FAN
TEMP
REG
PWM
AUDIO
D-AMP
EEPROM
RLS
RLS
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
Module_
ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
RST2
PD
DAC
ASIC
DCDC/
REG
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
PD
PD
X/Y Drive,Scan
DRIVE
SCAN
DCDC/REG
Address
ASIC
ADDRESS
DRIVE
SCAN
Panel
M_SW_DET
Main
Switch
ucom
RELAY
PS_PD
EXT_PD
V+17V
V+12V
V+6_5V
VSUS
VADR
Vcc
Trans
Vs/Va
Trans
Power

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

The unit will enter either Passive Standby, Active Standby, or Functional Standby mode, according to the circumstance. (The figure shows Passive Standby mode as an example.)

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	OFF
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

(Panel) Input port state

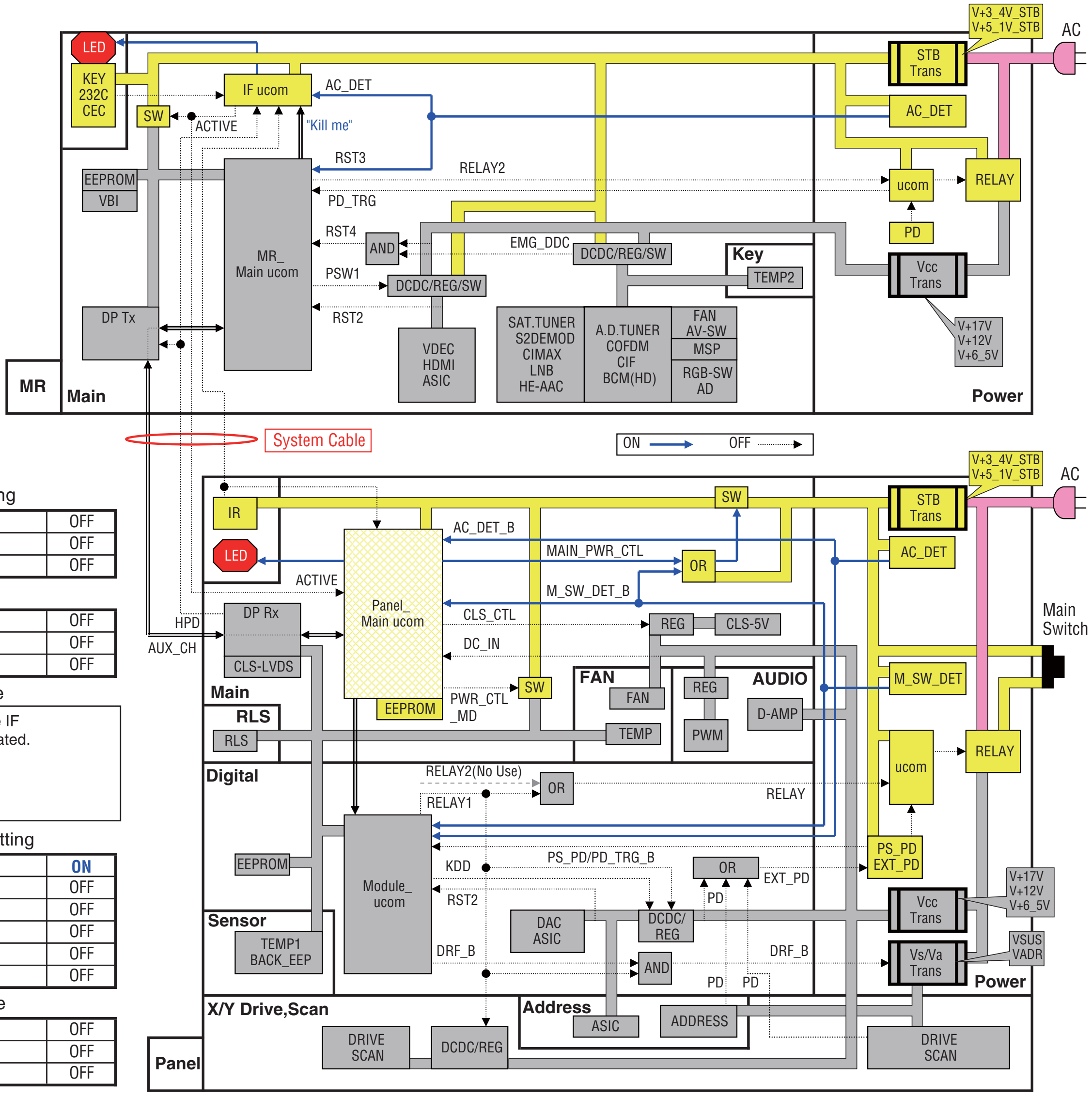
Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Standby power is supplied from the Power Assy, but power to each device is interrupted.

A

Passive Standby


LED
KEY
232C
CEC
SW
ACTIVE
IF ucom
AC_DET
"Kill me"
RST3
RELAY2
PD_TRG
RST4
AND
EMG_DDC
PSW1
DCDC/REG/SW
RST2
EEPROM
VBI
MR_
Main ucom
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
MR
Main
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Power
System Cable
ON
OFF
IR
LED
ACTIVE
Panel_
Main ucom
AC_DET_B
MAIN_PWR_CTL
OR
M_SW_DET_B
CLS_CTL
REG
CLS-5V
DC_IN
DP Rx
HPD
AUX_CH
CLS-LVDS
Main
RLS
RLS
EEPROM
PWR_CTL
_MD
SW
FAN
FAN
TEMP
REG
AUDIO
D-AMP
PWM
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
Module_
ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
PD
RST2
DAC
ASIC
DCDC/
REG
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
PD
PD
X/Y Drive,Scan
DRIVE
SCAN
DCDC/REG
Address
ASIC
ADDRESS
DRIVE
SCAN
Panel
Main
Switch
M_SW_DET
PS_PD
EXT_PD
Vs/Va
Trans
VSUS
VADR
Power

B

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

C

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

Only the periphery of the IF microcomputer are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

D

(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

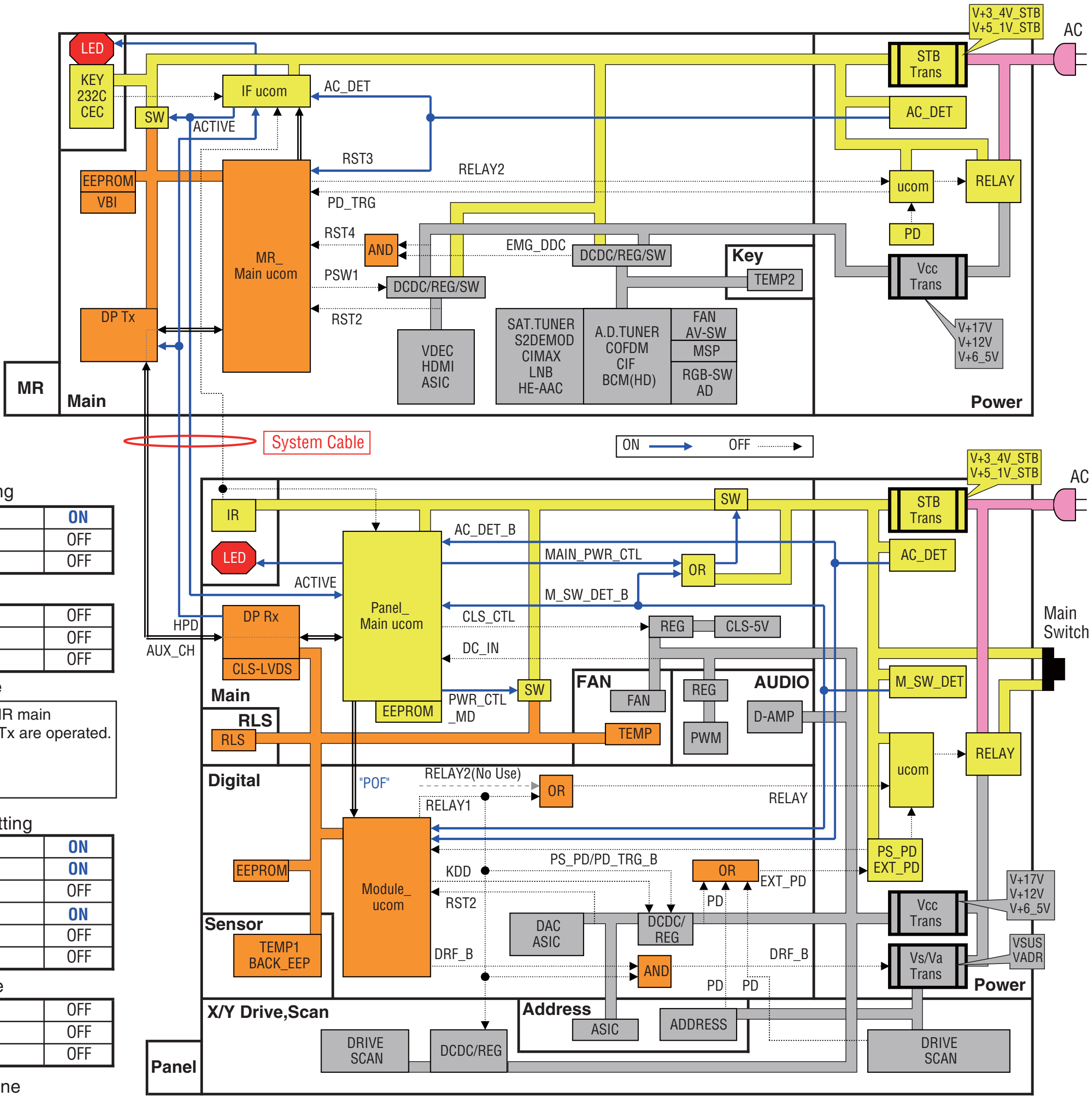
(Panel) Operation outline

Only the periphery of the Panel main microcomputer and IR are operated.
In this time, panel main microcomputer is the sleep mode.

E

F

Active Standby


V+3_4V_STB
V+5_1V_STB
AC
LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
RST3
RELAY2
EEPROM
VBI
PD_TRG
MR_
Main ucom
RST4
AND
EMG_DDC
DCDC/REG/SW
Key
TEMP2
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
PSW1
DCDC/REG/SW
DP Tx
RST2
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
IR
SW
STB
Trans
AC_DET_B
LED
MAIN_PWR_CTL
OR
AC_DET
ACTIVE
Panel_
Main ucom
M_SW_DET_B
HPD
DP Rx
CLS_CTL
REG
CLS-5V
Main
Switch
AUX_CH
DC_IN
CLS-LVDS
Main
SW
FAN
AUDIO
M_SW_DET
PWR_CTL
_MD
FAN
REG
D-AMP
RLS
EEPROM
RLS
TEMP
PWM
ucom
RELAY
Digital
"POF"
RELAY2(No Use)
OR
RELAY1
RELAY
PS_PD
EXT_PD
EEPROM
Module_
ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
V+17V
V+12V
V+6_5V
RST2
PD
Vcc
Trans
Sensor
DAC
ASIC
DCDC/
REG
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
VSUS
VADR
PD
PD
Vs/Va
Trans
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	ON
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

Periphery of the IF and MR main microcomputers and DP Tx are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	ON
Panel Main: CLS_CTL	OFF
DP Rx: HPD	ON
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

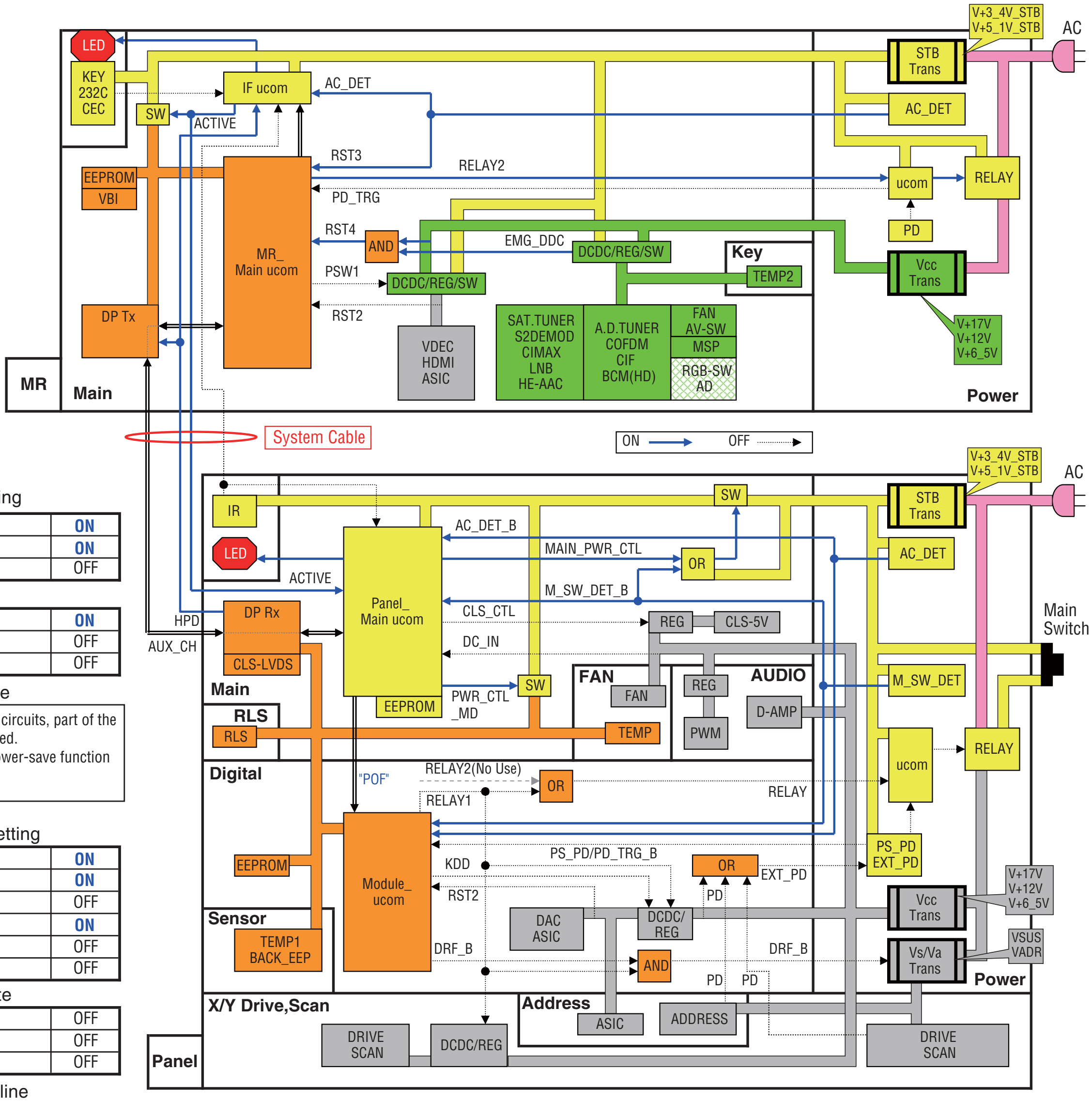
(Panel) Operation outline

Periphery of the Panel main microcomputer, IR, DP Rx and module microcomputer are operated.

A

Function Standby

B


LED
KEY 232C CEC
SW
IF ucom
AC_DET
ACTIVE
EEPROM VBI
RST3
RELAY2
PD_TRG
MR_ Main ucom
RST4
AND
EMG_DDC
DCDC/REG/SW
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC HDMI ASIC
SAT.TUNER S2DEMOD CIMAX LNB HE-AAC
A.D.TUNER COFDM CIF BCM(HD)
FAN AV-SW
MSP
RGB-SW AD
Key
TEMP2
MR
Main
V+3_4V_STB V+5_1V_STB
AC
STB Trans
AC_DET
ucom
RELAY
PD
Vcc Trans
V+17V V+12V V+6_5V
Power
System Cable
ON
OFF
IR
LED
SW
AC_DET_B
MAIN_PWR_CTL
OR
M_SW_DET_B
ACTIVE
Panel_ Main ucom
CLS_CTL
REG
CLS-5V
DC_IN
DP Rx
HPD
AUX_CH
CLS-LVDS
Main
EEPROM
PWR_CTL _MD
SW
FAN
FAN
REG
AUDIO
D-AMP
PWM
TEMP
RLS
RLS
Digital
"POF"
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
Module_ ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
RST2
PD
DAC ASIC
DCDC/ REG
AND
DRF_B
DRF_B
PD
PD
Sensor
TEMP1 BACK_EEP
X/Y Drive,Scan
DRIVE SCAN
DCDC/REG
Address
ASIC
ADDRESS
DRIVE SCAN
Panel
Main Switch
M_SW_DET
ucom
RELAY
PS_PD EXT_PD
Vcc Trans
V+17V V+12V V+6_5V
Vs/Va Trans
VSUS VADR
Power

C

(MR) Output port setting

IF: ACTIVE	**ON**
MR Main: RELAY2	**ON**
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	**ON**
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

- Besides the standby power circuits, part of the Vcc circuits are also activated.
- RGB-SW/AD IC uses the power-save function of the IC.

D

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	**ON**
Panel Main: PWR_CTL_MD	**ON**
Panel Main: CLS_CTL	OFF
DP Rx: HPD	**ON**
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

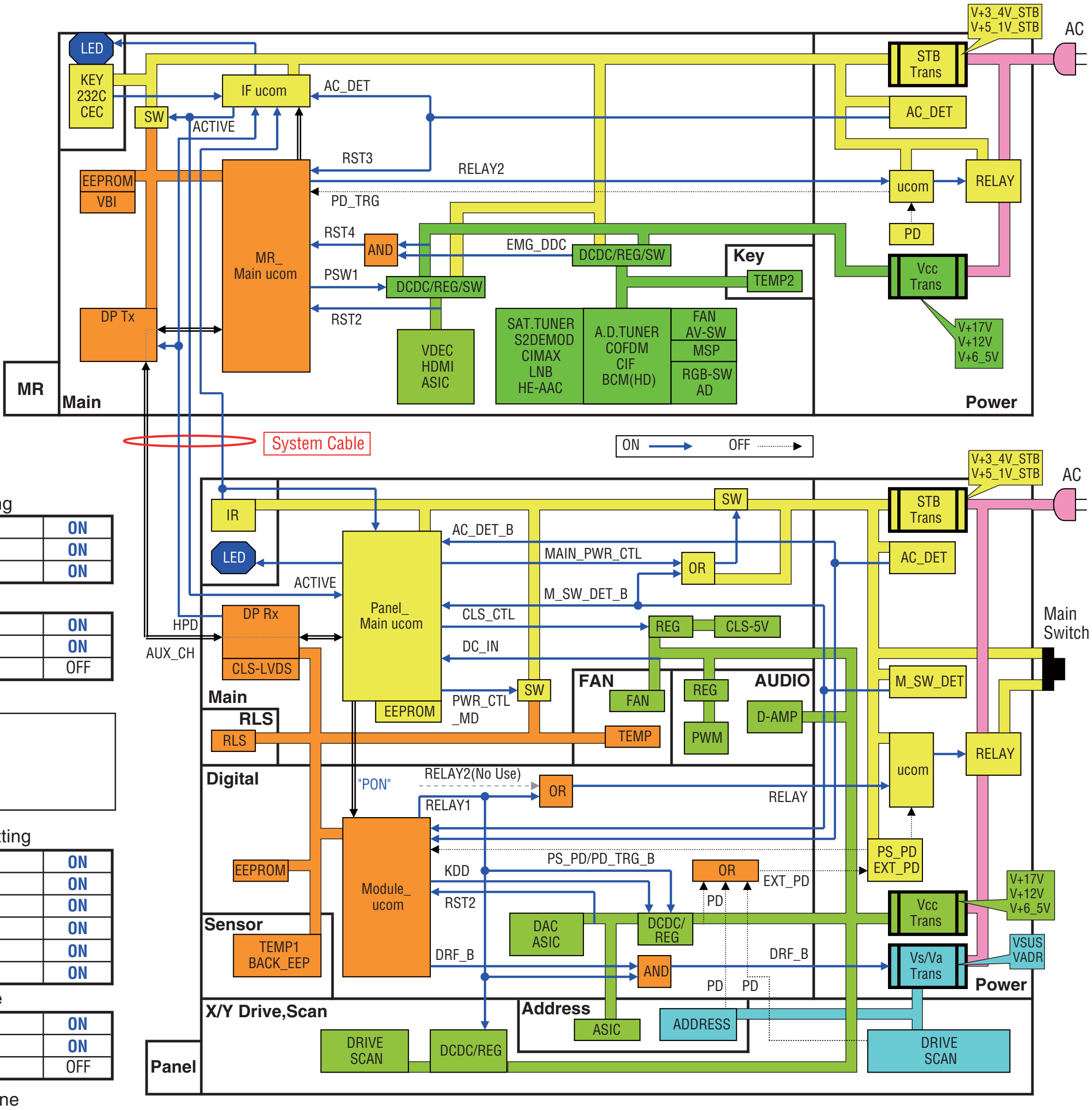
(Panel) Operation outline

Periphery of the Panel main microcomputer, IR, DP Rx and module microcomputer are operated.
(As same state as the active standby)

E

F

PDP Screen ON


V+3_4V_STB
V+5_1V_STB
AC
LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
RST3
RELAY2
EEPROM
VBI
PD_TRG
STB Trans
AC_DET
ucom
RELAY
PD
RST4
AND
EMG_DDC
DCDC/REG/SW
Key
TEMP2
Vcc Trans
MR_
Main ucom
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
SW
STB Trans
IR
AC_DET_B
AC_DET
LED
MAIN_PWR_CTL
OR
ACTIVE
Panel_
Main ucom
M_SW_DET_B
HPD
DP Rx
CLS_CTL
REG
CLS-5V
Main Switch
AUX_CH
CLS-LVDS
DC_IN
Main
SW
FAN
AUDIO
FAN
REG
M_SW_DET
PWR_CTL
_MD
EEPROM
D-AMP
RLS
RLS
TEMP
PWM
RELAY
Digital
"PON"
RELAY2(No Use)
OR
ucom
RELAY1
RELAY
PS_PD/PD_TRG_B
PS_PD
EXT_PD
EEPROM
KDD
OR
EXT_PD
Module_
ucom
PD
V+17V
V+12V
V+6_5V
RST2
DAC
ASIC
DCDC/
REG
Vcc Trans
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
Vs/Va Trans
VSUS
VADR
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	ON
MR Main: RELAY2	ON
MR Main: PSW1	ON

(MR) Input port state

MR Main: RST4	ON
MR Main: RST2	ON
MR Main: PD_TRG	OFF

(MR) Operation outline

All devices are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	ON
Panel Main: CLS_CTL	ON
DP Rx: HPD	ON
Module: RELAY1 / KDD	ON
Module: DRF_B	ON

(Panel) Input port state

Main: DC_IN	ON
Module: RST2	ON
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

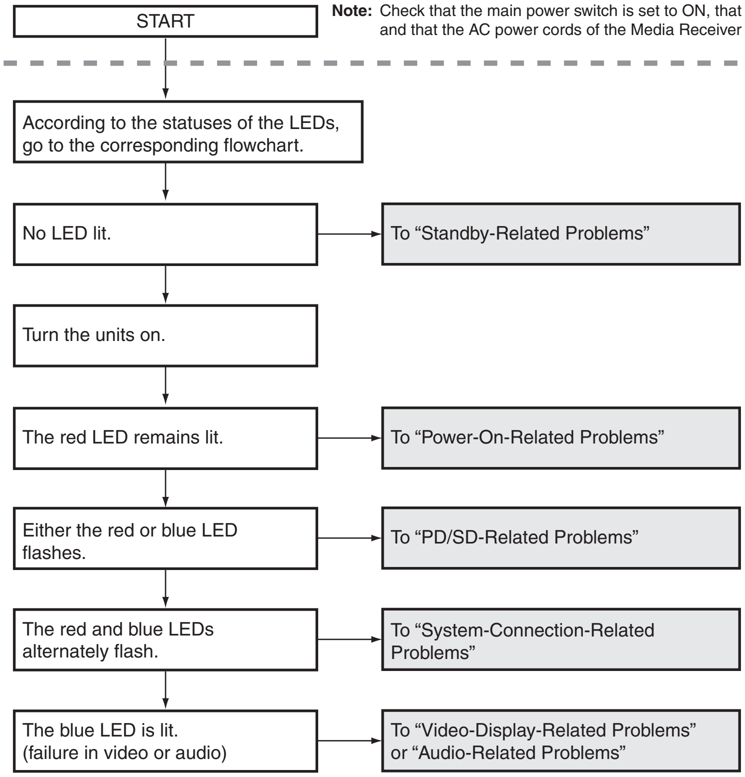
All devices are operated.

5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit

Note: Check that the main power switch is set to ON, that the system cable is connected, and that the AC power cords of the Media Receiver and display are both plugged in.



START

According to the statuses of the LEDs, go to the corresponding flowchart.

No LEL lit. → To "Standby-Related Problems"

Turn the units on.

The red LED remains lit. → To "Power-On-Related Problems"

Either the red or blue LED flashes. → To "PD/SD-Related Problems"

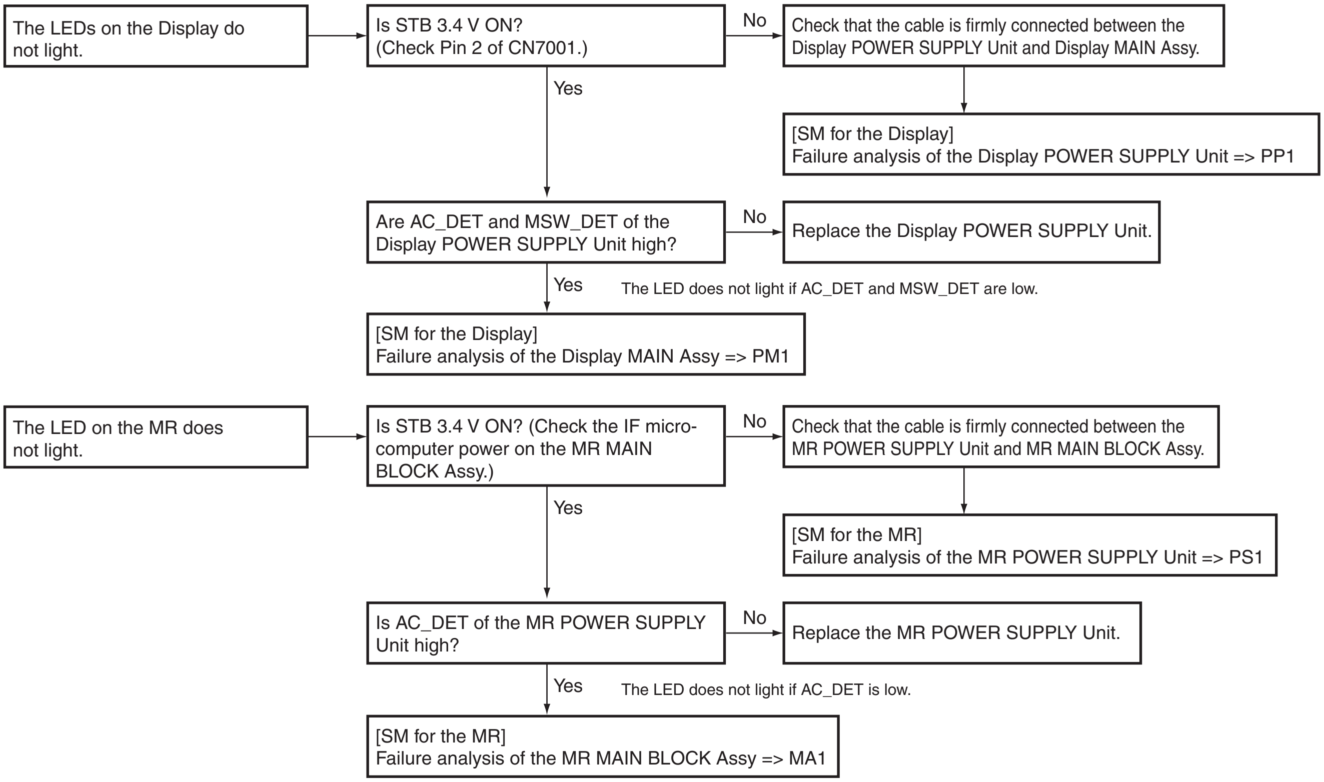
The red and blue LEDs alternately flash. → To "System-Connection-Related Problems"

The blue LED is lit. (failure in video or audio) → To "Video-Display-Related Problems" or "Audio-Related Problems"

Note:
MR and Display in this chapter denote the following:
MR: Media Receiver (KRP-M01)
Display: PLASMA DISPLAY (KRP-600P, KRP-500P)

Standby-Related Problems

- You can check ON/STB and PD/SD statuses of the display with the green and red LEDs on the DIGITAL Assy. If neither the green nor red LED is lit, it is likely that STB power is not supplied. (Failure in the POWER SUPPLY Unit or the unit is PASV-STB state.)



The LEDs on the Display do not light. → Is STB 3.4 V ON? (Check Pin 2 of CN7001.)

No → Check that the cable is firmly connected between the Display POWER SUPPLY Unit and Display MAIN Assy. → [SM for the Display] Failure analysis of the Display POWER SUPPLY Unit => PP1

Yes → Are AC_DET and MSW_DET of the Display POWER SUPPLY Unit high?

No → Replace the Display POWER SUPPLY Unit.

Yes → [SM for the Display] Failure analysis of the Display MAIN Assy => PM1

The LED does not light if AC_DET and MSW_DET are low.

The LED on the MR does not light. → Is STB 3.4 V ON? (Check the IF micro-computer power on the MR MAIN BLOCK Assy.)

No → Check that the cable is firmly connected between the MR POWER SUPPLY Unit and MR MAIN BLOCK Assy. → [SM for the MR] Failure analysis of the MR POWER SUPPLY Unit => PS1

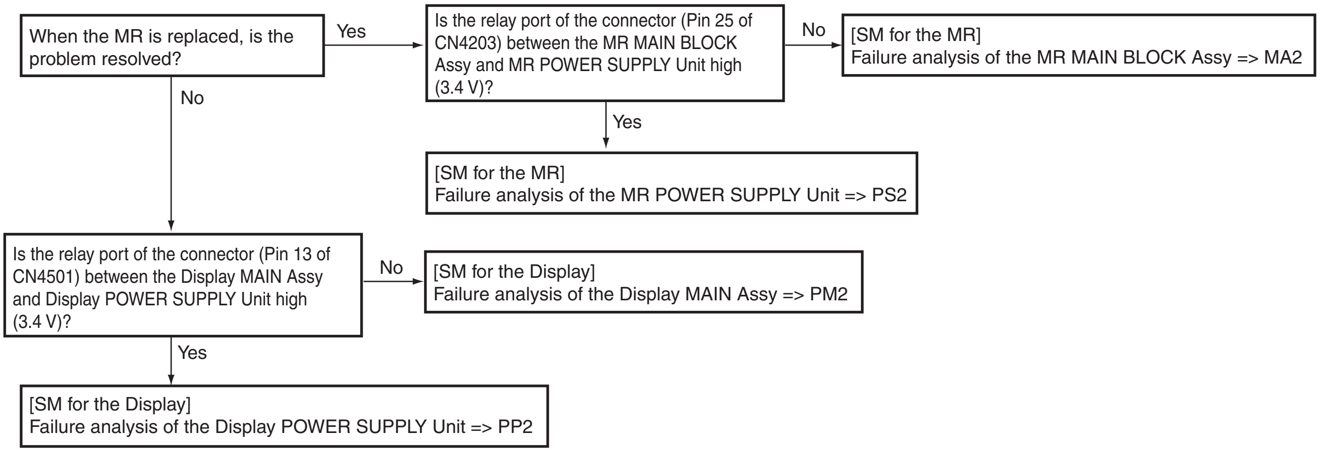
Yes → Is AC_DET of the MR POWER SUPPLY Unit high?

No → Replace the MR POWER SUPPLY Unit.

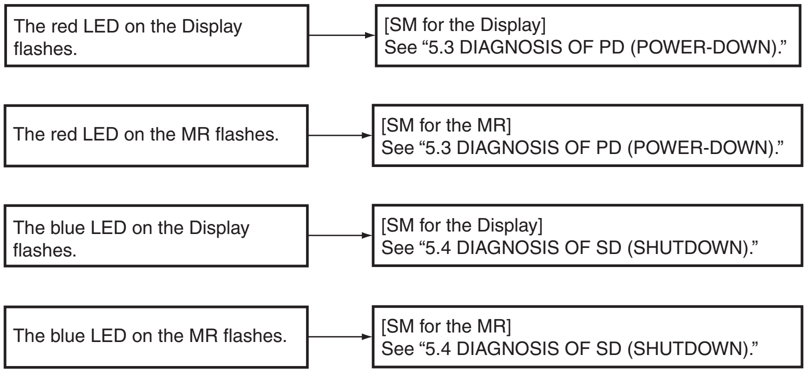
Yes → [SM for the MR] Failure analysis of the MR MAIN BLOCK Assy => MA1

The LED does not light if AC_DET is low.

Power-On-Related Problems

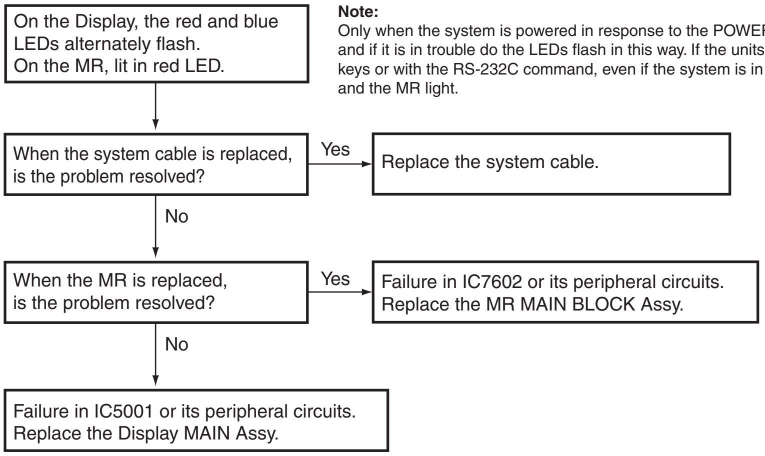

When the MR is replaced, is the problem resolved?
Yes
Is the relay port of the connector (Pin 25 of CN4203) between the MR MAIN BLOCK Assy and MR POWER SUPPLY Unit high (3.4 V)?
No
[SM for the MR]
Failure analysis of the MR MAIN BLOCK Assy => MA2
Yes
[SM for the MR]
Failure analysis of the MR POWER SUPPLY Unit => PS2
No
Is the relay port of the connector (Pin 13 of CN4501) between the Display MAIN Assy and Display POWER SUPPLY Unit high (3.4 V)?
No
[SM for the Display]
Failure analysis of the Display MAIN Assy => PM2
Yes
[SM for the Display]
Failure analysis of the Display POWER SUPPLY Unit => PP2

PD/SD-Related Problems


The red LED on the Display flashes.
[SM for the Display]
See "5.3 DIAGNOSIS OF PD (POWER-DOWN)."
The red LED on the MR flashes.
[SM for the MR]
See "5.3 DIAGNOSIS OF PD (POWER-DOWN)."
The blue LED on the Display flashes.
[SM for the Display]
See "5.4 DIAGNOSIS OF SD (SHUTDOWN)."
The blue LED on the MR flashes.
[SM for the MR]
See "5.4 DIAGNOSIS OF SD (SHUTDOWN)."

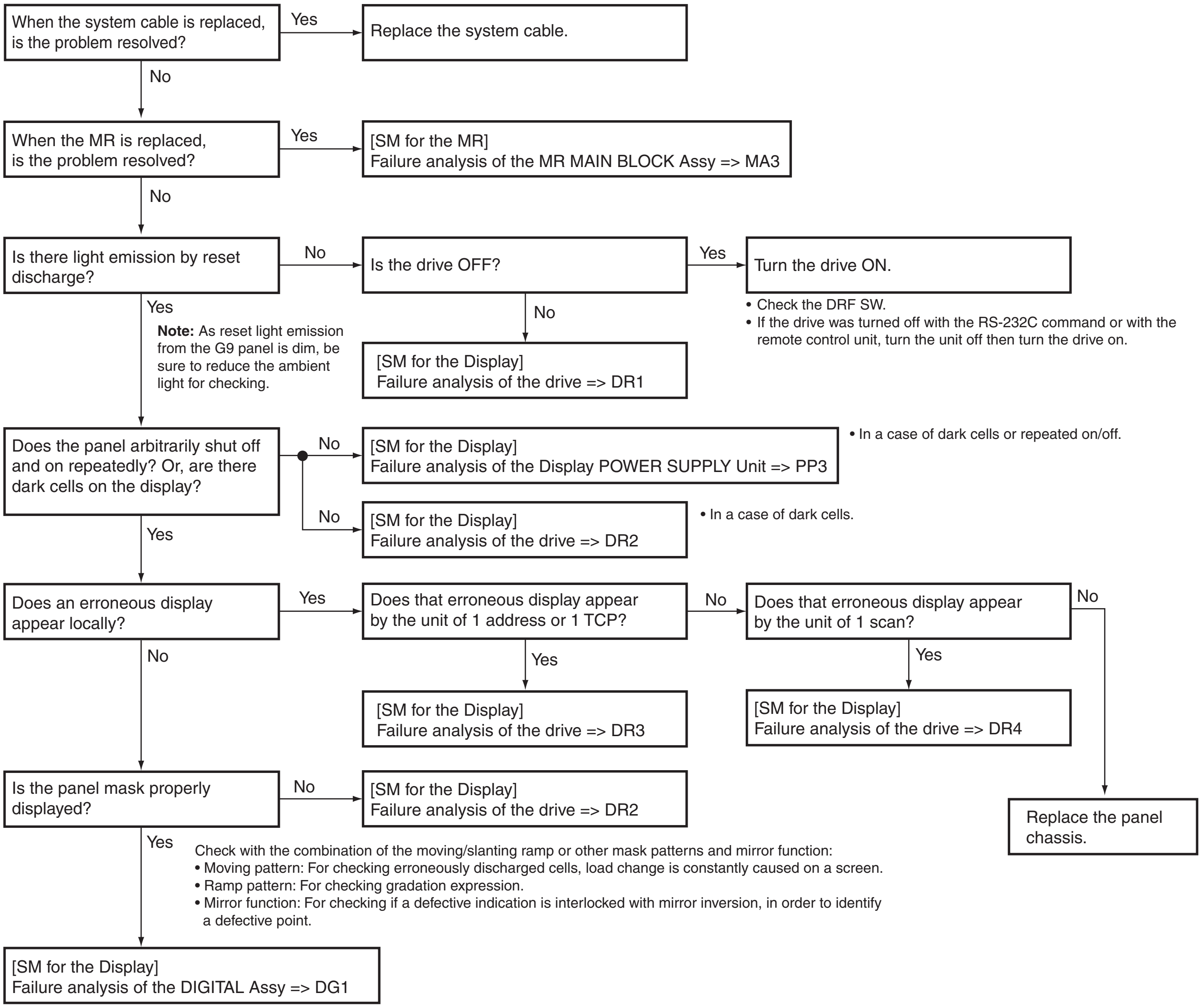
Power-down will not be activated if the drive is off.

System-Connection-Related Problems

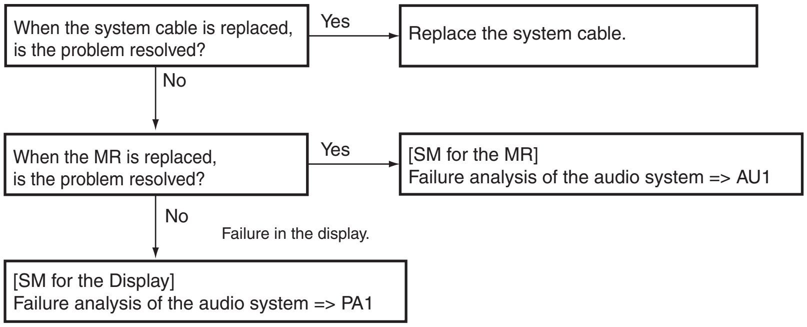

On the Display, the red and blue LEDs alternately flash.
On the MR, lit in red LED.
When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
Failure in IC7602 or its peripheral circuits.
Replace the MR MAIN BLOCK Assy.
No
Failure in IC5001 or its peripheral circuits.
Replace the Display MAIN Assy.

Note:
Only when the system is powered in response to the POWER key on the remote control unit and if it is in trouble do the LEDs flash in this way. If the units are turned on with their POWER keys or with the RS-232C command, even if the system is in failure, the red LEDs on the display and the MR light.

Video-Display-Related Problems

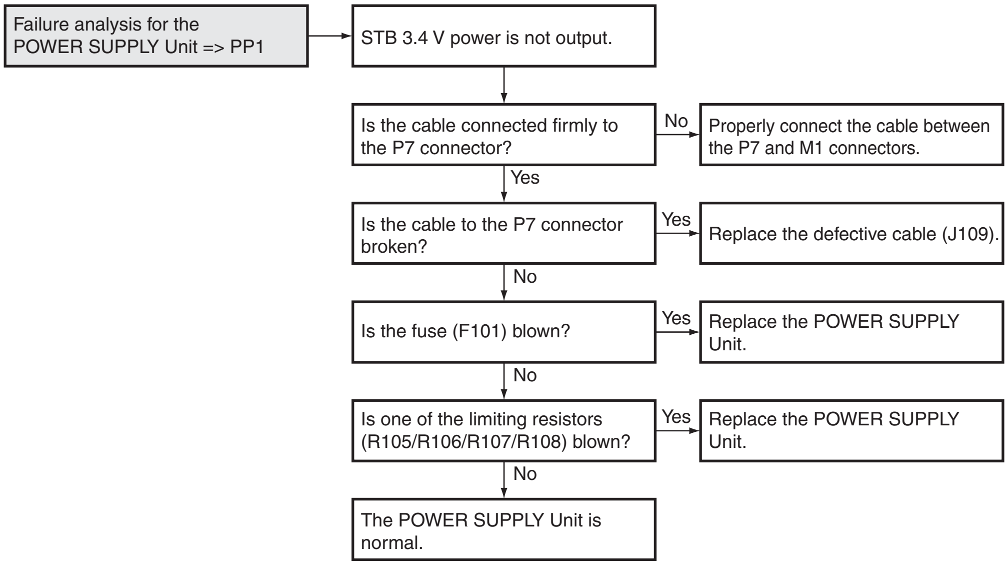

When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
[SM for the MR] Failure analysis of the MR MAIN BLOCK Assy => MA3
No
Is there light emission by reset discharge?
No
Is the drive OFF?
Yes
Turn the drive ON.
• Check the DRF SW.
• If the drive was turned off with the RS-232C command or with the remote control unit, turn the unit off then turn the drive on.
No
[SM for the Display] Failure analysis of the drive => DR1
Yes
Note: As reset light emission from the G9 panel is dim, be sure to reduce the ambient light for checking.
Does the panel arbitrarily shut off and on repeatedly? Or, are there dark cells on the display?
No
[SM for the Display] Failure analysis of the Display POWER SUPPLY Unit => PP3
• In a case of dark cells or repeated on/off.
No
[SM for the Display] Failure analysis of the drive => DR2
• In a case of dark cells.
Yes
Does an erroneous display appear locally?
Yes
Does that erroneous display appear by the unit of 1 address or 1 TCP?
No
Does that erroneous display appear by the unit of 1 scan?
No
Yes
[SM for the Display] Failure analysis of the drive => DR3
Yes
[SM for the Display] Failure analysis of the drive => DR4
Replace the panel chassis.
No
Is the panel mask properly displayed?
No
[SM for the Display] Failure analysis of the drive => DR2
Yes
Check with the combination of the moving/slanting ramp or other mask patterns and mirror function:
• Moving pattern: For checking erroneously discharged cells, load change is constantly caused on a screen.
• Ramp pattern: For checking gradation expression.
• Mirror function: For checking if a defective indication is interlocked with mirror inversion, in order to identify a defective point.
[SM for the Display] Failure analysis of the DIGITAL Assy => DG1

Audio-Related Problems


When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
[SM for the MR] Failure analysis of the audio system => AU1
No
Failure in the display.
[SM for the Display] Failure analysis of the audio system => PA1

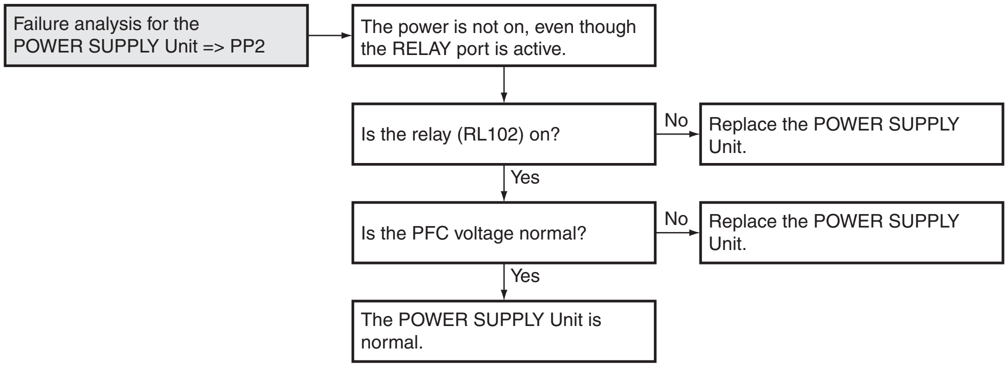
[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit => PP1
STB 3.4 V power is not output.
Is the cable connected firmly to the P7 connector?
No
Properly connect the cable between the P7 and M1 connectors.
Yes
Is the cable to the P7 connector broken?
Yes
Replace the defective cable (J109).
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is one of the limiting resistors (R105/R106/R107/R108) blown?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

Check the voltage at the MAIN Assy and POWER SUPPLY Unit.

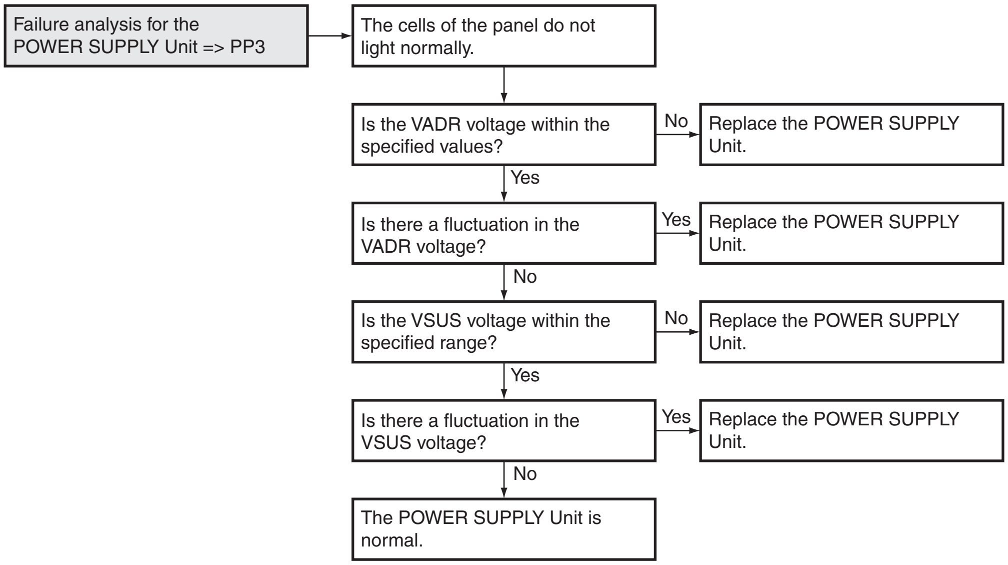
Check the resistance between L102 (R105 side) and the D131 anode, using a tester.


Failure analysis for the POWER SUPPLY Unit => PP2
The power is not on, even though the RELAY port is active.
Is the relay (RL102) on?
No
Replace the POWER SUPPLY Unit.
Yes
Is the PFC voltage normal?
No
Replace the POWER SUPPLY Unit.
Yes
The POWER SUPPLY Unit is normal.

- Check the relay operation at the terminal (Pin 4 of P4). (Voltage: 3.4 V)
- Check the relay sound (click).

- Check the voltage between the D205 cathode and RC101 (-) terminal.
- The voltage must be around 390 V. (340V or less are defective.)

Caution: High voltage!


Failure analysis for the POWER SUPPLY Unit => PP3
The cells of the panel do not light normally.
Is the VADR voltage within the specified values?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VADR voltage?
Yes
Replace the POWER SUPPLY Unit.
No
Is the VSUS voltage within the specified range?
No
Replace the POWER SUPPLY Unit.
Yes
Is there a fluctuation in the VSUS voltage?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

The specified voltage values are between 72 and 78 V.

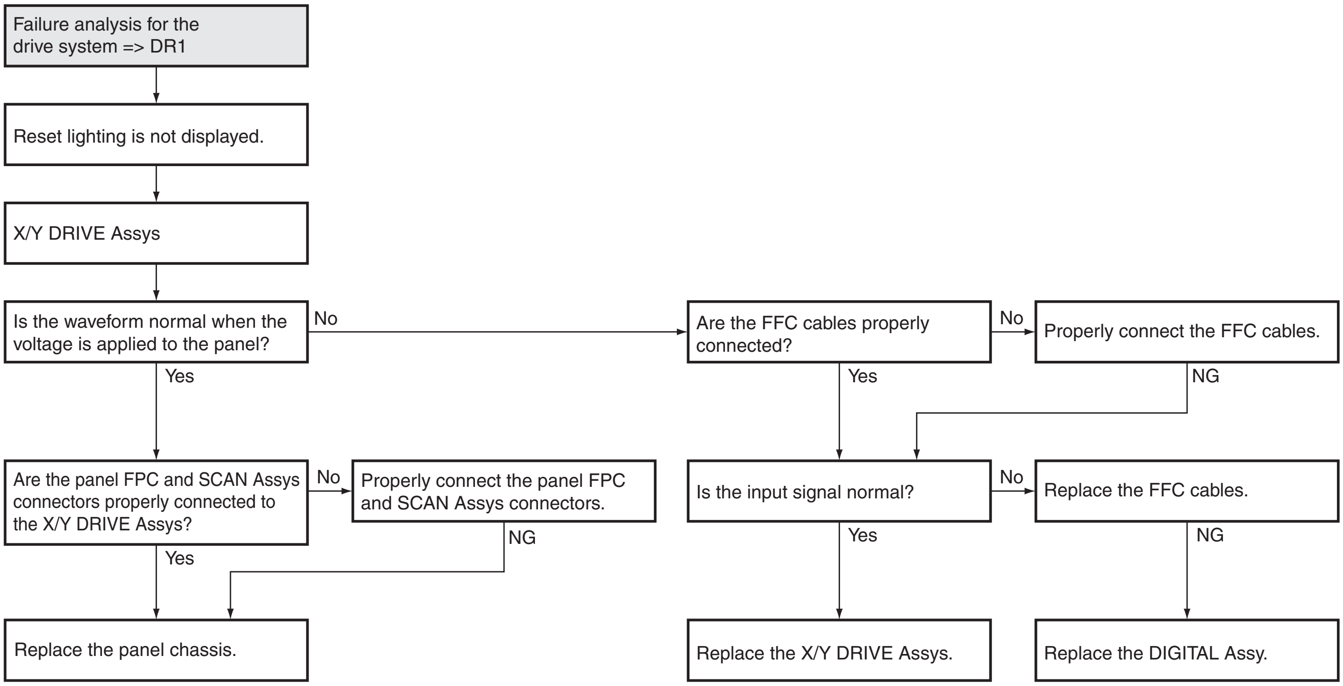
The ripple must be within 5 V.

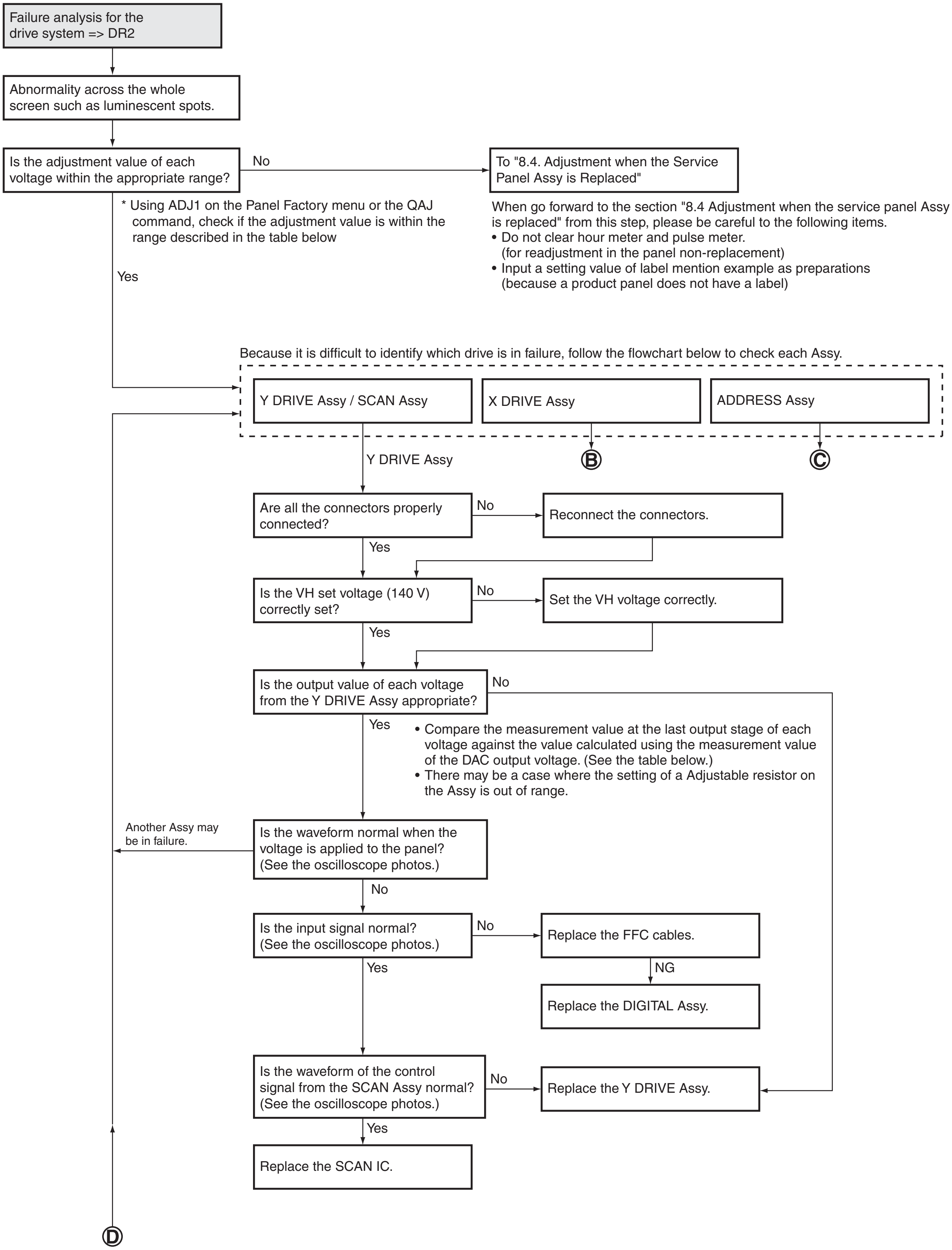
The specified voltage values are between 205 and 215 V (VSU: 125/35°C).

The ripple must be within 10 V.

[3] DRIVE ASSY

Flowchart of Failure Analysis for The Drive Assy


Failure analysis for the drive system => DR1
Reset lighting is not displayed.
X/Y DRIVE Assys
Is the waveform normal when the voltage is applied to the panel?
No
Yes
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
NG
Are the panel FPC and SCAN Assys connectors properly connected to the X/Y DRIVE Assys?
No
Properly connect the panel FPC and SCAN Assys connectors.
NG
Yes
Is the input signal normal?
No
Replace the FFC cables.
Yes
NG
Replace the panel chassis.
Replace the X/Y DRIVE Assys.
Replace the DIGITAL Assy.

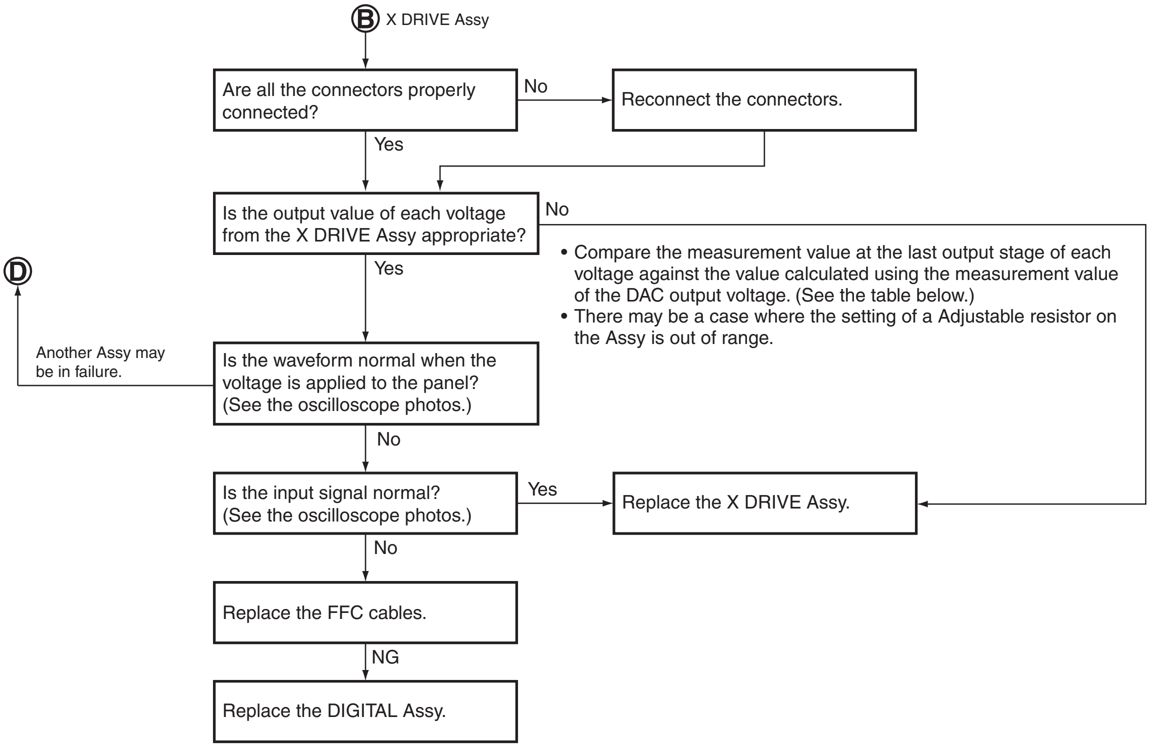

Failure analysis for the drive system => DR2
Abnormality across the whole screen such as luminescent spots.
Is the adjustment value of each voltage within the appropriate range?
No
To "8.4. Adjustment when the Service Panel Assy is Replaced"
Yes
Y DRIVE Assy / SCAN Assy
X DRIVE Assy
ADDRESS Assy
Y DRIVE Assy
B
C
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
Is the VH set voltage (140 V) correctly set?
No
Set the VH voltage correctly.
Yes
Is the output value of each voltage from the Y DRIVE Assy appropriate?
No
Yes
Another Assy may be in failure.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.
Yes
Is the waveform of the control signal from the SCAN Assy normal? (See the oscilloscope photos.)
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
D

* Using ADJ1 on the Panel Factory menu or the QAJ command, check if the adjustment value is within the range described in the table below

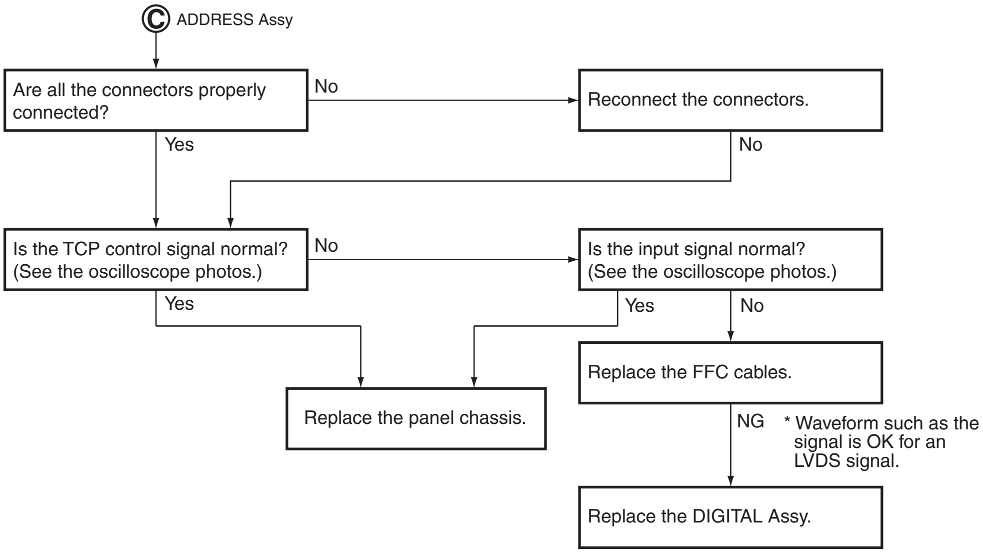
When go forward to the section "8.4 Adjustment when the service panel Assy is replaced" from this step, please be careful to the following items.
- Do not clear hour meter and pulse meter.
  (for readjustment in the panel non-replacement)
- Input a setting value of label mention example as preparations
  (because a product panel does not have a label)

Because it is difficult to identify which drive is in failure, follow the flowchart below to check each Assy.

- Compare the measurement value at the last output stage of each voltage against the value calculated using the measurement value of the DAC output voltage. (See the table below.)
- There may be a case where the setting of a Adjustable resistor on the Assy is out of range.



B X DRIVE Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
Is the output value of each voltage from the X DRIVE Assy appropriate?
No
• Compare the measurement value at the last output stage of each voltage against the value calculated using the measurement value of the DAC output voltage. (See the table below.)
• There may be a case where the setting of a Adjustable resistor on the Assy is out of range.
Yes
D
Another Assy may be in failure.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Replace the X DRIVE Assy.
No
Replace the FFC cables.
NG
Replace the DIGITAL Assy.



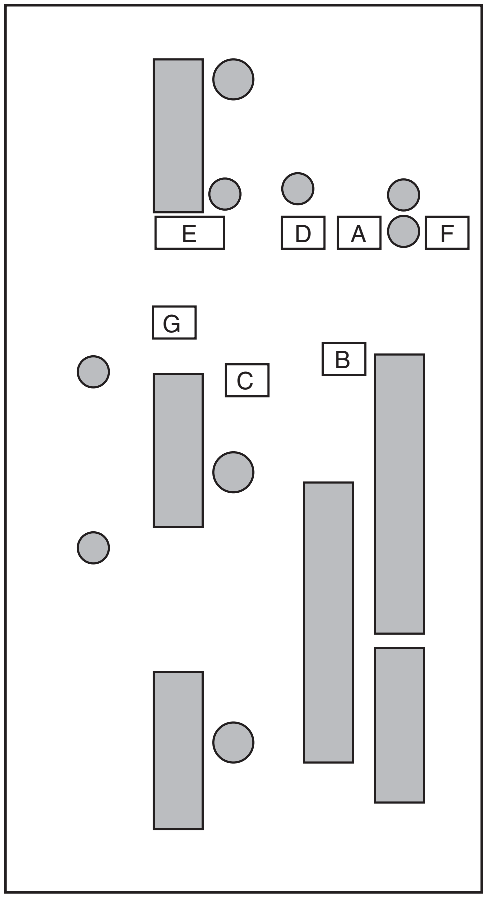
C ADDRESS Assy
Are all the connectors properly connected?
No
Reconnect the connectors.
Yes
No
Is the TCP control signal normal? (See the oscilloscope photos.)
No
Is the input signal normal? (See the oscilloscope photos.)
Yes
Yes
No
Replace the FFC cables.
Replace the panel chassis.
NG
* Waveform such as the signal is OK for an LVDS signal.
Replace the DIGITAL Assy.

Assy Name	Voltage to be Checked (V)	Adjustable Range	Measurement Point		Computation Formula for Voltage (Absolute Value)	
		60-inch	Output at the Last Stage	DAC Output (*2)	Computation Using DAC Output Voltage (V)	Computation Using Adjustment Value (*4)
Y DRIVE Assy	VSNOFS	040 to 085	CN2404 (*1)	Lower side of R2723 (*3)	55.54 - VOFS_ADJ × 13.91	VOF value × 0.18 + 9.6
	VYRST	001 to 056	CN2401 (*1)	Upper side of R2621 (*3)	VYPRST_ADJ × 62.495 + 75.2	VRP value × 0.81 + 74.4
	VKNOFS1_2	054 to 107	CN2405 (*1)	Left side of R2754 (*3)	YVKNOFS1_ADJ × 36.85 + 159.3	(V1F value+VYF value-128) × 0.48 + 158.8
	VKNOFS3	065 to 117	CN2403 (*1)	Right side of R2757 (*3)	YVKNOFS3_ADJ × 36.85 + 159.3	(V3F value+VYF value-128) × 0.48 + 158.8
	VKNOFS4	111 to 164	CN2406 (*1)	Right side of R2755 (*3)	YVKNOFS4_ADJ × 36.85 + 159.3	(V4F value+VYF value-128) × 0.48 + 158.8
X DRIVE Assy	XKOFS1	105	CN1302 (*1)	K1402 (*1)	XKNOFS1_ADJ × 27.3 + 30	VX1 value × 0.35 + 29.7
	XKOFS2	063	CN1301 (*1)	K1401 (*1)	XKNOFS2_ADJ × 25.0 + 69.8	VX2 value × 0.32 + 69.5

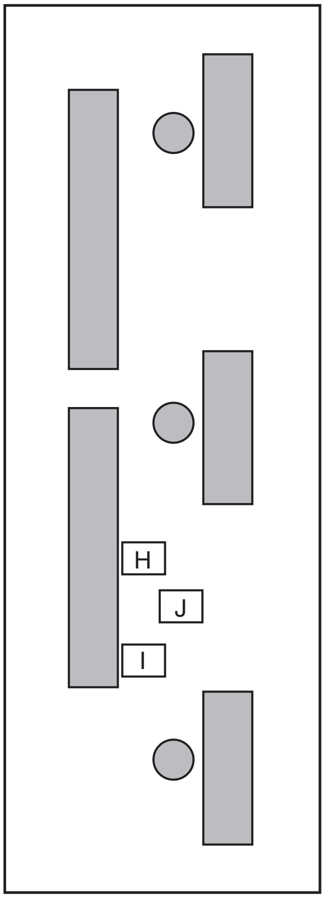
(*1): These parts have not been mounted.
(*2): It is recommended to measure the DAC output voltage with the drive off.
(*3): View when the Assy is mounted on the unit and viewed from the rear.

(*4): The value calculated using an adjustment value may be different from the value measured at the last output stage, because various corrections such as temperature correction are not taken into consideration.

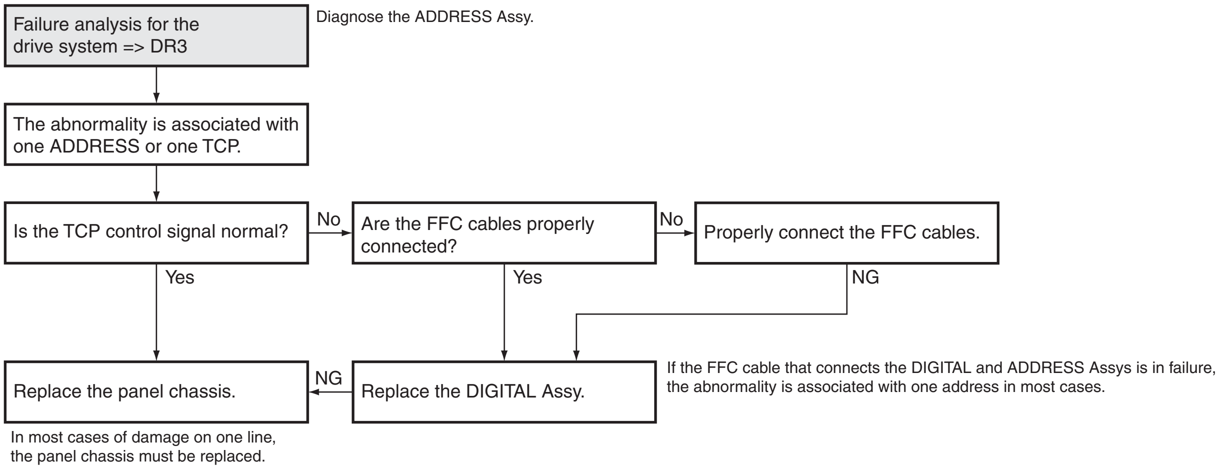
Diagrammatic view of the Y DRIVE Assy



Diagrammatic view of the X DRIVE Assy



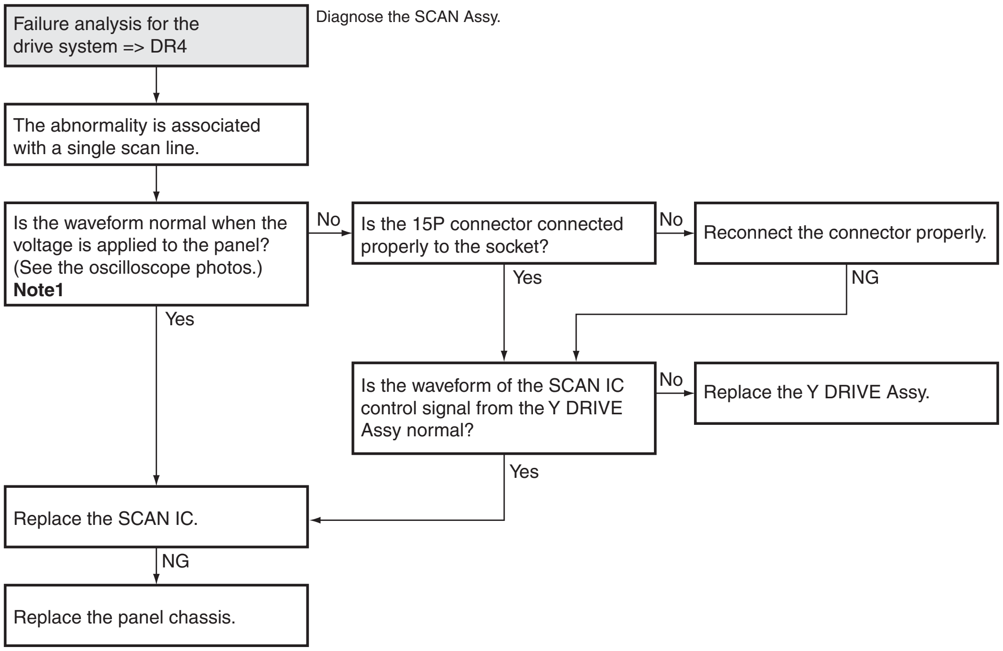
A	R2754,R2755,R2757
B	R2723
C	R2621
D	CN2405
E	CN2403,CN2406
F	CN2404
G	CN2401
H	K1401
I	K1402
J	CN1301,CN1302


Failure analysis for the drive system => DR3
The abnormality is associated with one ADDRESS or one TCP.
Is the TCP control signal normal?
No
Are the FFC cables properly connected?
No
Properly connect the FFC cables.
Yes
Yes
NG
Replace the panel chassis.
NG
Replace the DIGITAL Assy.

Diagnose the ADDRESS Assy.

If the FFC cable that connects the DIGITAL and ADDRESS Assys is in failure, the abnormality is associated with one address in most cases.

In most cases of damage on one line, the panel chassis must be replaced.


Failure analysis for the drive system => DR4
The abnormality is associated with a single scan line.
Is the waveform normal when the voltage is applied to the panel? (See the oscilloscope photos.) Note1
No
Is the 15P connector connected properly to the socket?
No
Reconnect the connector properly.
Yes
NG
Yes
Is the waveform of the SCAN IC control signal from the Y DRIVE Assy normal?
No
Replace the Y DRIVE Assy.
Yes
Replace the SCAN IC.
NG
Replace the panel chassis.

Diagnose the SCAN Assy.

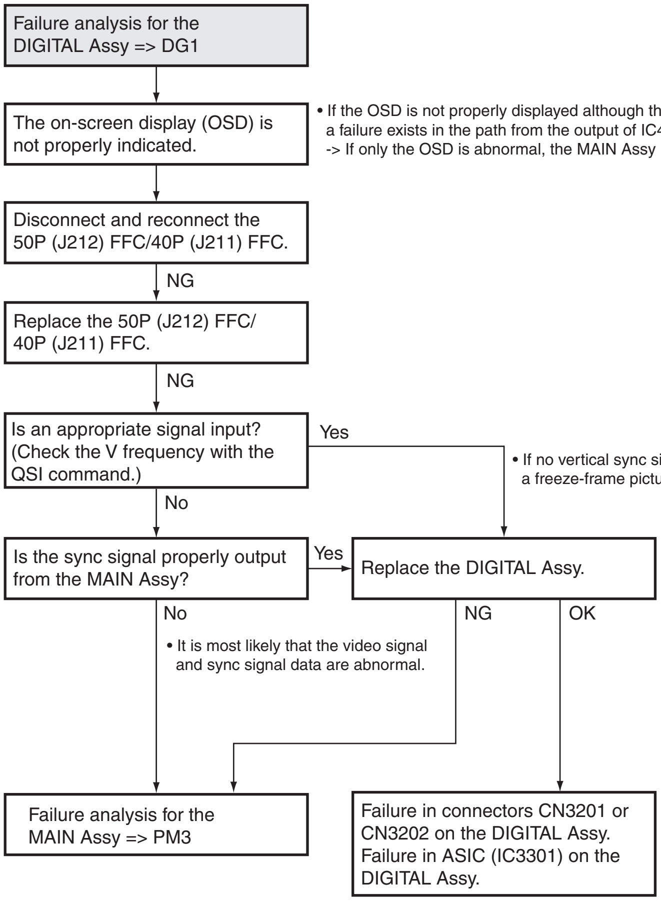
Note 1:
In a case where confirmation of the waveform for a particular line is impossible with an oscilloscope, it is possible to identify a defective line by lighting a particular line, using the following commands: (The SCAN IC outputting each line refers to the table.)
PON
FAY
MKRS01
BSMS01 (Command for reducing phosphor burn-in)
$250000**** (In place of ****, input a figure between 0001 and 1080, which denotes an ordinal number of a particular line.)

With the above commands, a particular line lights. Be careful to light a line for as short a time as possible, to avoid phosphor burn-in.
After a particular line is identified, display an all-white screen to protect the screen from burn-in.

IC No.	Line Number	Object Line
No 1	66	0001 to 0066
No 2	68	0067 to 0134
No 3	68	0135 to 0202
No 4	68	0203 to 0270
No 5	68	0271 to 0338
No 6	68	0339 to 0406
No 7	68	0407 to 0474
No 8	66	0475 to 0540
No 9	66	0541 to 0606
No 10	68	0607 to 0674
No 11	68	0675 to 0742
No 12	68	0743 to 0810
No 13	68	0811 to 0878
No 14	68	0879 to 0946
No 15	68	0947 to 1014
No 16	66	1015 to 1080

[4] DIGITAL ASSY

Flowchart of Failure Analysis for The DIGITAL Assy


Failure analysis for the DIGITAL Assy => DG1
The on-screen display (OSD) is not properly indicated.
Disconnect and reconnect the 50P (J212) FFC/40P (J211) FFC.
NG
Replace the 50P (J212) FFC/ 40P (J211) FFC.
NG
Is an appropriate signal input? (Check the V frequency with the QSI command.)
Yes
No
Is the sync signal properly output from the MAIN Assy?
Yes
Replace the DIGITAL Assy.
No
NG
OK
Failure analysis for the MAIN Assy => PM3
Failure in connectors CN3201 or CN3202 on the DIGITAL Assy. Failure in ASIC (IC3301) on the DIGITAL Assy.

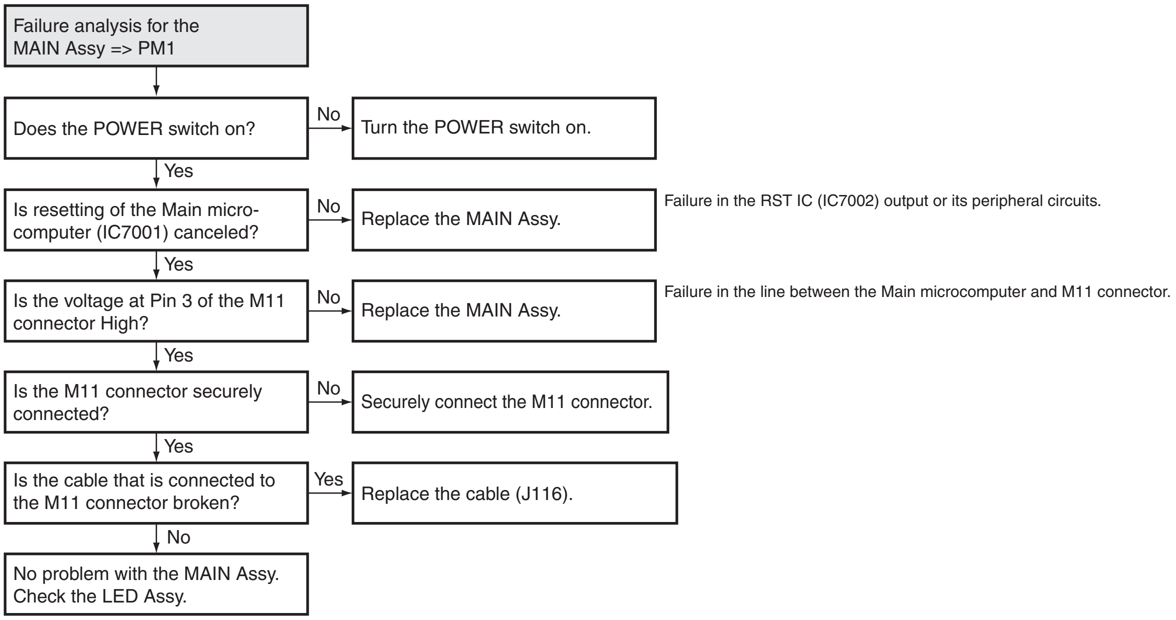
- If the OSD is not properly displayed although the panel mask is properly displayed, a failure exists in the path from the output of IC4001-IC4004 on the MAIN Assy to IC3301 on the DIGITAL Assy.
  -> If only the OSD is abnormal, the MAIN Assy is in failure.

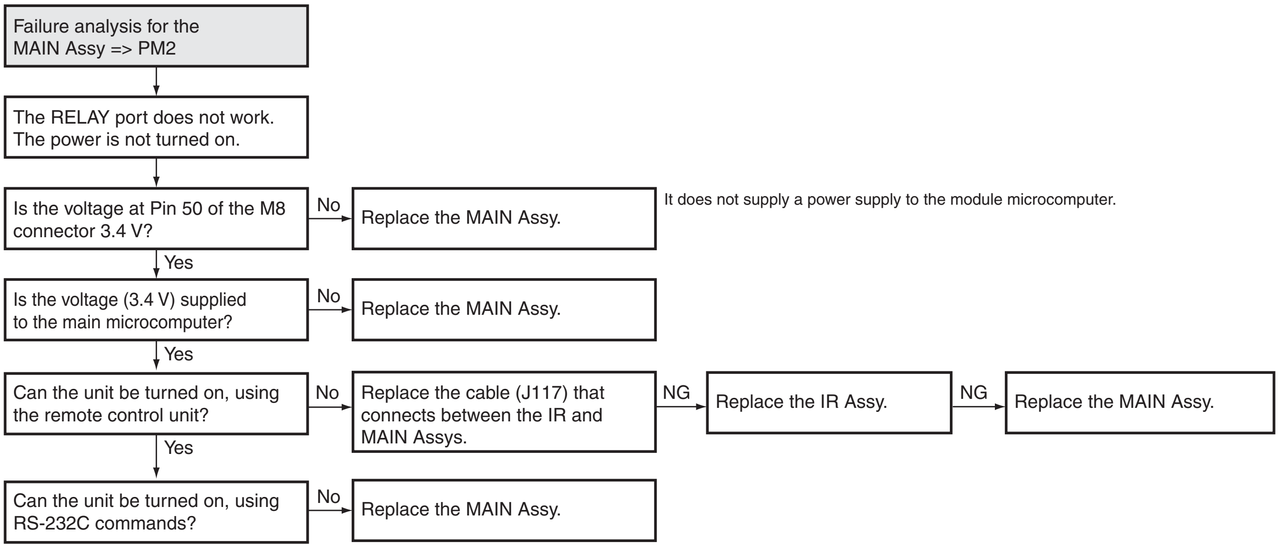
- If no vertical sync signal is input to the DIGITAL Assy, a freeze-frame picture will be displayed.

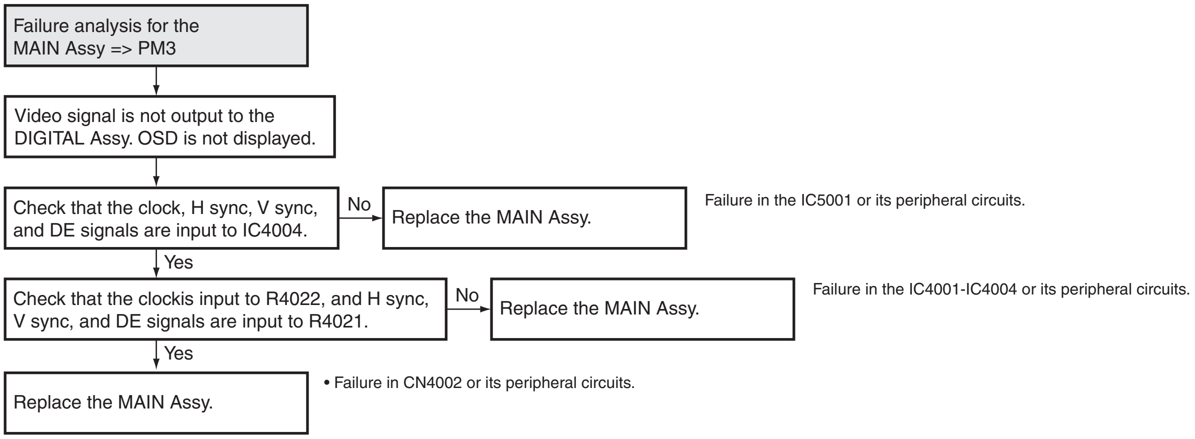
- It is most likely that the video signal and sync signal data are abnormal.

[5] MAIN ASSY (PANEL INTERFACE)

Flowchart of Failure Analysis for The MAIN Assy

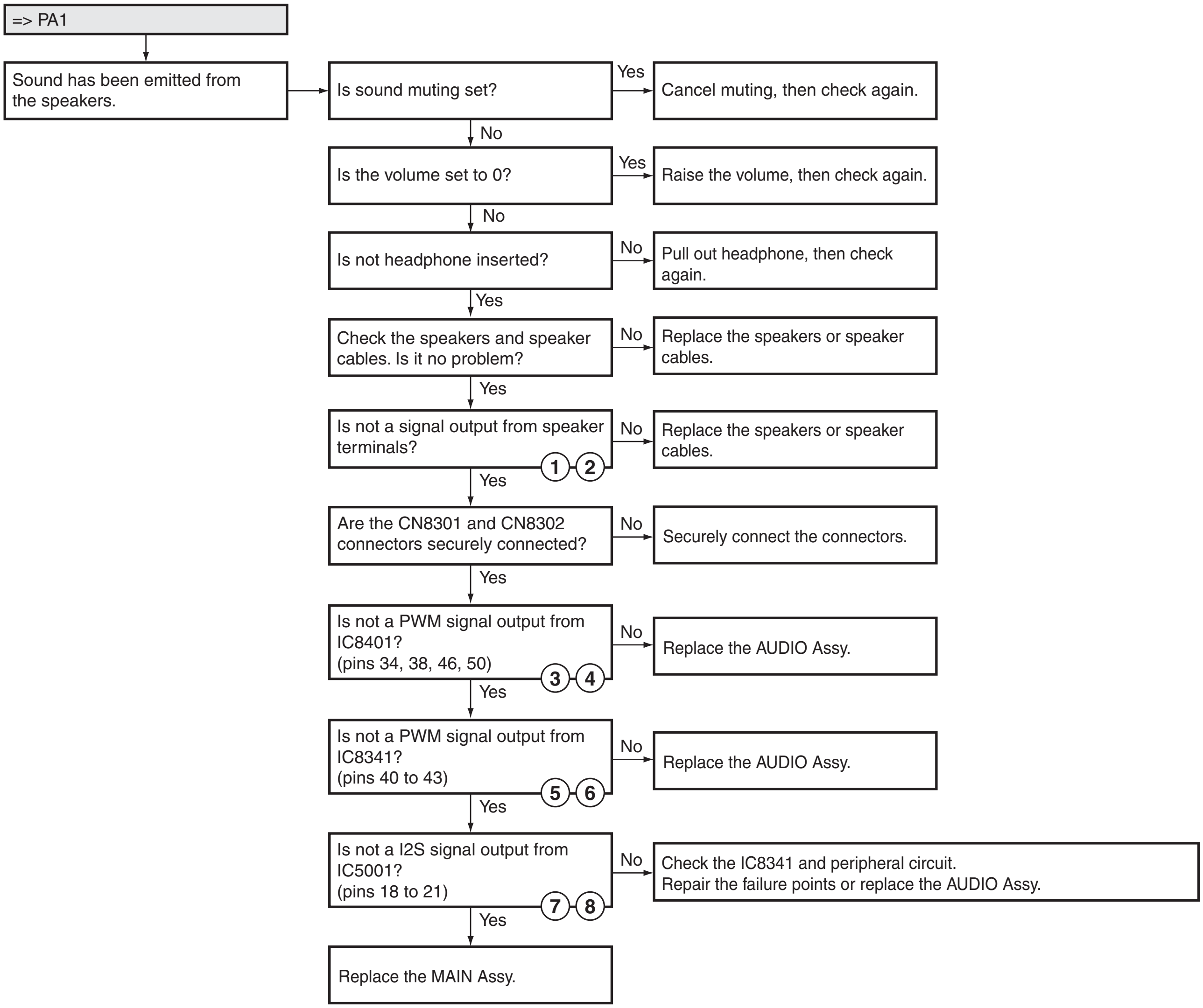

Failure analysis for the MAIN Assy => PM1
Does the POWER switch on?
No
Turn the POWER switch on.
Yes
Is resetting of the Main micro-computer (IC7001) canceled?
No
Replace the MAIN Assy.
Failure in the RST IC (IC7002) output or its peripheral circuits.
Yes
Is the voltage at Pin 3 of the M11 connector High?
No
Replace the MAIN Assy.
Failure in the line between the Main microcomputer and M11 connector.
Yes
Is the M11 connector securely connected?
No
Securely connect the M11 connector.
Yes
Is the cable that is connected to the M11 connector broken?
Yes
Replace the cable (J116).
No
No problem with the MAIN Assy. Check the LED Assy.


Failure analysis for the MAIN Assy => PM2
The RELAY port does not work. The power is not turned on.
Is the voltage at Pin 50 of the M8 connector 3.4 V?
No
Replace the MAIN Assy.
It does not supply a power supply to the module microcomputer.
Yes
Is the voltage (3.4 V) supplied to the main microcomputer?
No
Replace the MAIN Assy.
Yes
Can the unit be turned on, using the remote control unit?
No
Replace the cable (J117) that connects between the IR and MAIN Assys.
NG
Replace the IR Assy.
NG
Replace the MAIN Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the MAIN Assy.


Failure analysis for the MAIN Assy => PM3
Video signal is not output to the DIGITAL Assy. OSD is not displayed.
Check that the clock, H sync, V sync, and DE signals are input to IC4004.
No
Replace the MAIN Assy.
Failure in the IC5001 or its peripheral circuits.
Yes
Check that the clockis input to R4022, and H sync, V sync, and DE signals are input to R4021.
No
Replace the MAIN Assy.
Failure in the IC4001-IC4004 or its peripheral circuits.
Yes
Replace the MAIN Assy.
• Failure in CN4002 or its peripheral circuits.

[6] AUDIO SYSTEM

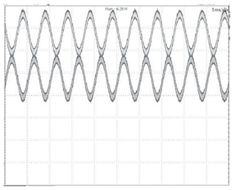
Flowchart of Failure Analysis for The Audio System


=> PA1
Sound has been emitted from the speakers.
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is not headphone inserted?
No
Pull out headphone, then check again.
Yes
Check the speakers and speaker cables. Is it no problem?
No
Replace the speakers or speaker cables.
Yes
Is not a signal output from speaker terminals? ① ②
No
Replace the speakers or speaker cables.
Yes
Are the CN8301 and CN8302 connectors securely connected?
No
Securely connect the connectors.
Yes
Is not a PWM signal output from IC8401? (pins 34, 38, 46, 50) ③ ④
No
Replace the AUDIO Assy.
Yes
Is not a PWM signal output from IC8341? (pins 40 to 43) ⑤ ⑥
No
Replace the AUDIO Assy.
Yes
Is not a I2S signal output from IC5001? (pins 18 to 21) ⑦ ⑧
No
Check the IC8341 and peripheral circuit. Repair the failure points or replace the AUDIO Assy.
Yes
Replace the MAIN Assy.

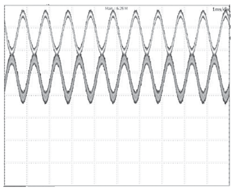
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

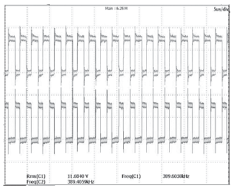
① **JA8551 - pins 1, 2**
V: 2 V/div H: 1 mS/div



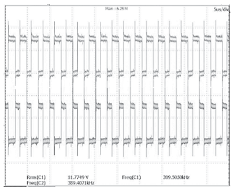
② **JA8551 - pins 3, 4**
V: 2 V/div H: 1 mS/div



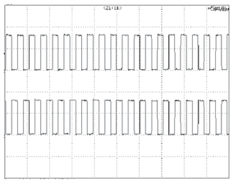
③ **IC8401 - pins 34, 38**
V: 10 V/div H: 5 µS/div



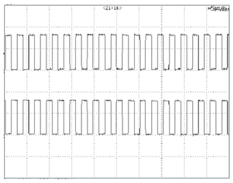
④ **IC8401 - pins 46, 50**
V: 10 V/div H: 5 µS/div



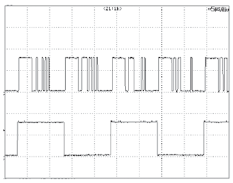
⑤ **IC8341 - pins 40, 41**
V: 2 V/div H: 5 µS/div



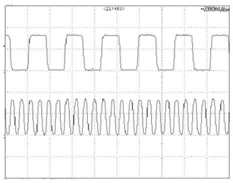
⑥ **IC8341 - pins 42, 43**
V: 2 V/div H: 5 µS/div



⑦ **IC5001 - pins 18, 19**
V: 2 V/div H: 5 µS/div

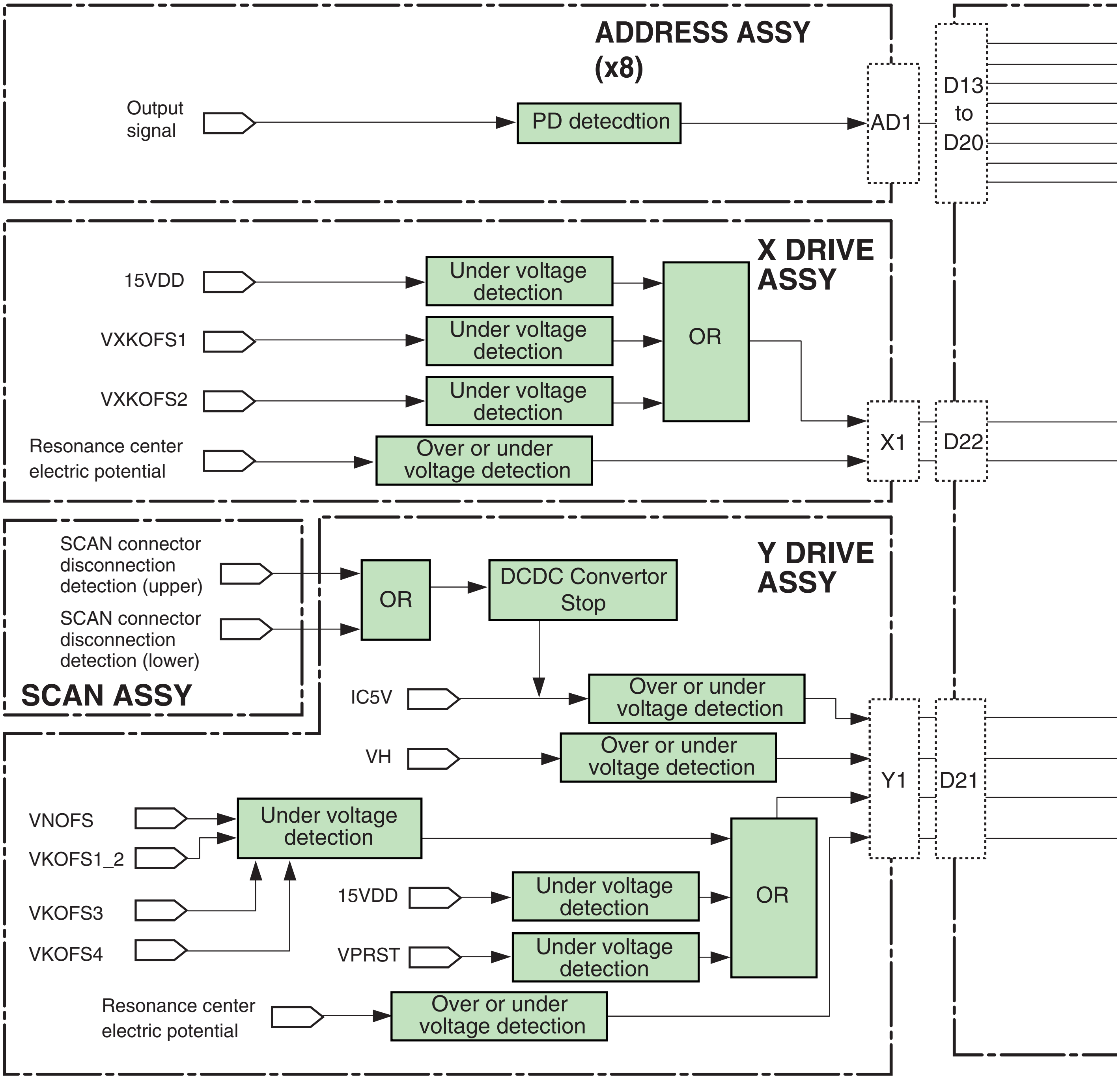


⑧ **IC5001 - pins 20, 21**
V: 2 V/div H: 200 nS/div

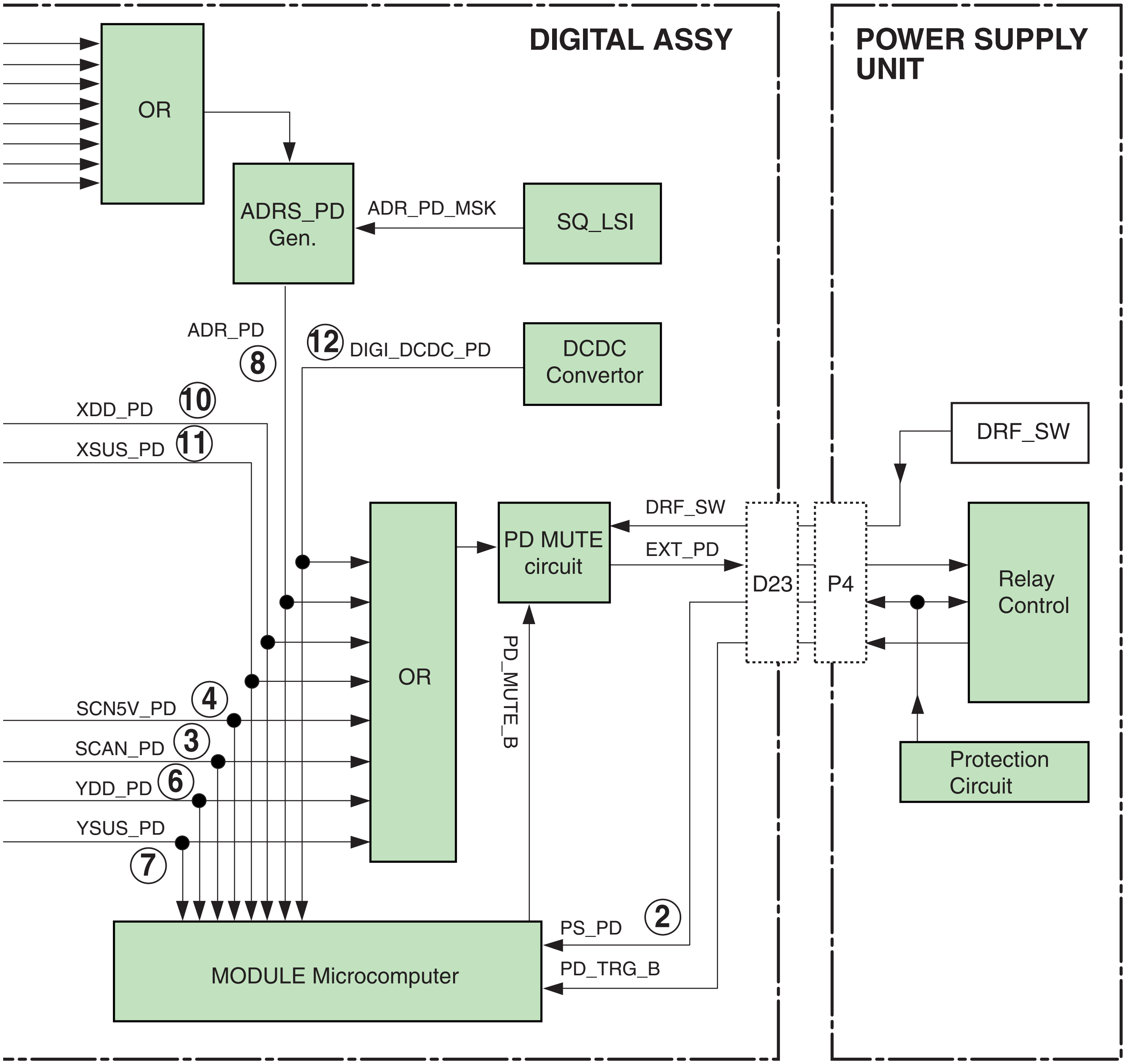


5.3 DIAGNOSIS OF PD (POWER-DOWN)

[1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL


ADDRESS ASSY
(x8)
Output signal
PD detecdtion
AD1
D13
to
D20
X DRIVE
ASSY
15VDD
VXKOFS1
VXKOFS2
Resonance center electric potential
Under voltage detection
Under voltage detection
Under voltage detection
OR
Over or under voltage detection
X1
D22
Y DRIVE
ASSY
SCAN connector disconnection detection (upper)
SCAN connector disconnection detection (lower)
SCAN ASSY
OR
DCDC Convertor Stop
IC5V
Over or under voltage detection
VH
Over or under voltage detection
Y1
D21
VNOFS
VKOFS1_2
VKOFS3
VKOFS4
Under voltage detection
15VDD
Under voltage detection
VPRST
Under voltage detection
OR
Resonance center electric potential
Over or under voltage detection

Note:
The figures ② to ⑫ indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.


DIGITAL ASSY
POWER SUPPLY UNIT
OR
ADRS_PD Gen.
ADR_PD_MSK
SQ_LSI
ADR_PD
⑧
⑫
DIGI_DCDC_PD
DCDC Convertor
XDD_PD
⑩
XSUS_PD
⑪
DRF_SW
OR
PD MUTE circuit
DRF_SW
EXT_PD
D23
P4
Relay Control
PD_MUTE_B
SCN5V_PD
④
SCAN_PD
③
YDD_PD
⑥
YSUS_PD
⑦
Protection Circuit
PS_PD
②
PD_TRG_B
MODULE Microcomputer

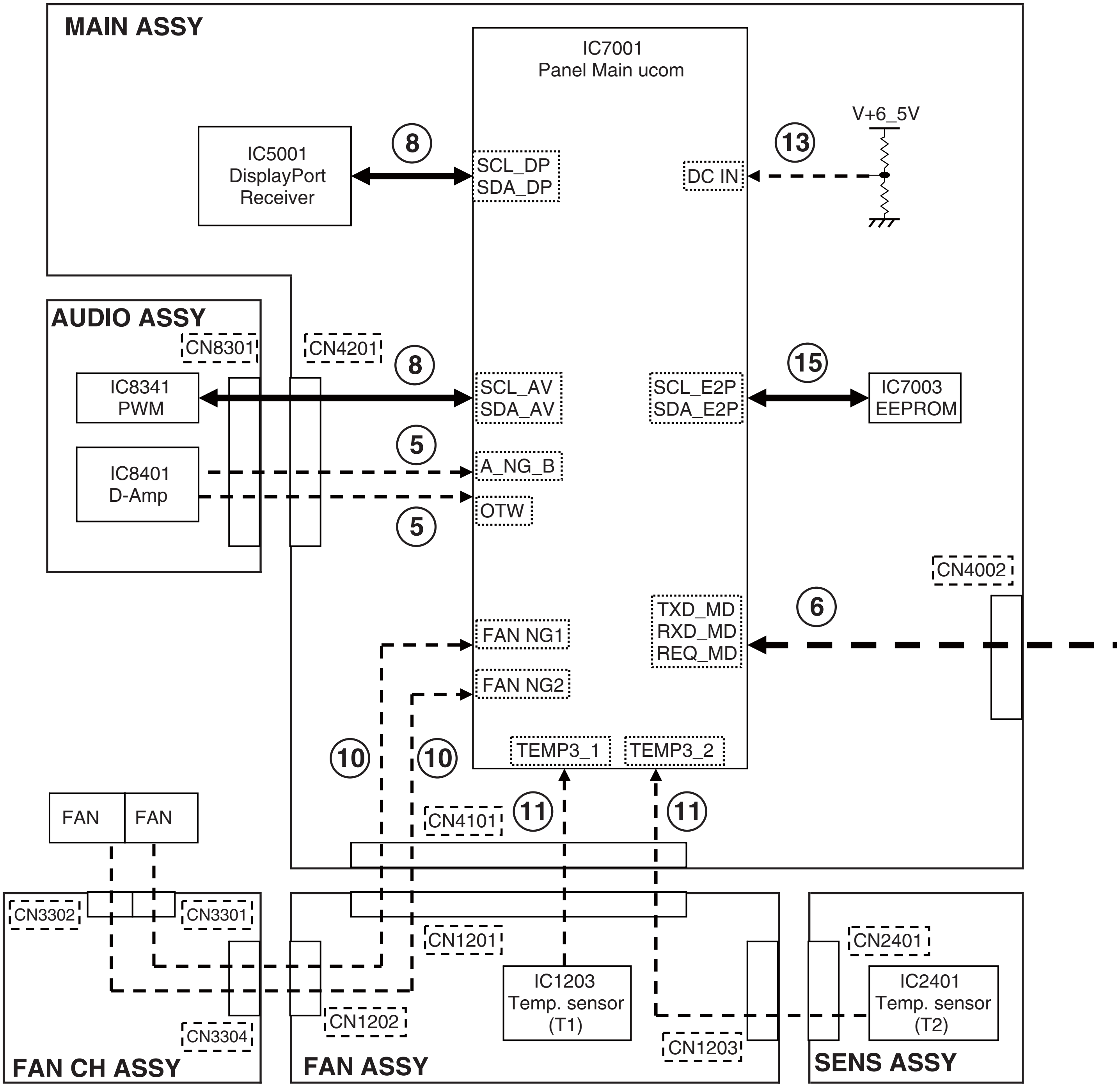
[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

Red LED Flashing Count	Factory History Display	Defective Assy	PD Outline	Checkpoint	
2	P-PWR	POWER SUPPLY Unit	Each PD in the POWER SUPPLY Unit		
			Connector disconnection	Connector [P14][P15] (60”only)	
		X DRIVE Assy	VSUS under voltage protection	X SUS block	
		Y DRIVE Assy	VSUS under voltage protection	Y SUS block	
		ADDRESS Assy	Connector disconnection	Connector [AD1]	
		DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]	
3	SCAN	SCAN Assy	VH over or under voltage protection	SCAN IC	
		X DRIVE Assy		X SUS block	
		Y DRIVE Assy		Y SUS block	
				VH DC/DC	
				OFFSET block	
			Connector disconnection	Connector [Y1][Y2]	
		DIGITAL Assy	Connector disconnection	Connector [D21]	
4	SCN5V	SCAN Assy	Connector disconnection	Connector [SA1][SB1][SB2][SC1][SC2][SD1]	
			IC5V over or under voltage protection	SCAN IC	
		Y DRIVE Assy		IC5V DC/DC	
6	Y-DCDC	Y DRIVE Assy	VNOFS under voltage protection	Y MSK block	
				NOFS block	
				VNOFS DC/DC	
			VYPRST under voltage protection	VPRST regulaotr	
				PR-U block	
			15VDD under voltage protection	15V DC/DC	
				SOFT-G block	
			VKOFS1,2 under voltage protection	Y MSK block	
				KNOFS2 block	
				VYKOFS1, 2 regulaotr	
			VKOFS3 under voltage protection	Y MSK block	
				VYKOFS3 regulaotr	
			VKOFS4 under voltage protection	Y MSK block	
				KNOFS4 block	
				VYKOFS4 regulaotr	
7	Y-SUS	Y DRIVE Assy	Over or under voltage protection of the center electric potential	Y resonance block	
		DIGITAL Assy	SQ_LSI does not operate	SEQ_LSI (Sync input, output waveform)	
8	ADRS	ADDRESS Assy	VADR under voltage protection	Address resonance block	
				TCP	
			Connector disconnection	Connector [AD1][AD2]	
		DIGITAL Assy	Connector disconnection	Connector [D13] to [D20]	
		Y DRIVE Assy	Connector disconnection	Connector [Y2][Y5][Y6]	
		X DRIVE Assy	Connector disconnection	Connector [X2][X3][X4]	
		POWER SUPPLY Unit	Connector disconnection	Connector [P1][P2]	
10	X-DCDC	X DRIVE Assy	Connector disconnection	Connector [X1][X2]	
			15VDD under voltage protection	X SUS block	
				15V DC/DC	
			VXKOFS1 under voltage protection	VXKOFS1 regulaotr	
				X OFFSET block	
			VXKOFS2 under voltage protection	VXKOFS2 regulaotr	
				X OFFSET block	
		DIGITAL Assy	Connector disconnection	Connector [D22]	
11	X-SUS	X DRIVE Assy	Over or under voltage protection of the center electric potential	X resonance block	
12	D-DCDC	DIGITAL Assy	3.3V,2.5V,1.1V	DC/DC controlo IC	
			Over voltage/under voltage/overcurrent protection	DC/DC block	
15	UNKNOW	POWER SUPPLY Unit	Connector disconnection	Connector [P4]	
		DIGITAL Assy	Connector disconnection	Connector [D23]	
			ModuleUcom can not detection	Each PD line of ModuleUcom	

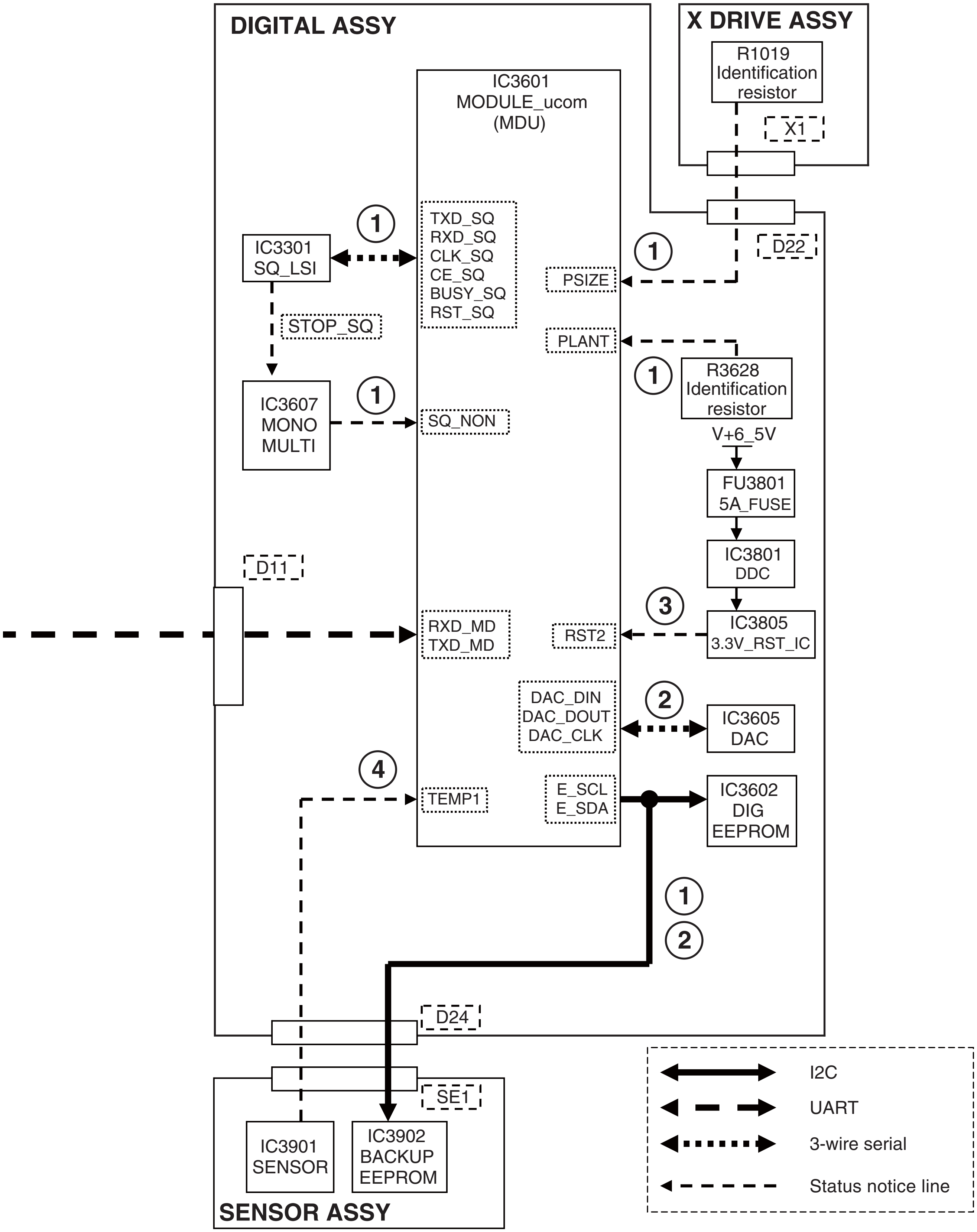
Possible Defective Part	Remarks
	The POWER SUPPLY Unit of 60 inches model is a structure of the two parts.
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2224	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
each SCAN IC	The abnormality of the SCAN IC
Q1218,Q1219,Q1221-Q1223,Q1226	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
Q2217-Q2219,Q2221-Q2223	VSUS-SUSOUT and SUSOUT-SUSGND are short-circuited.
IC2601,IC2603,IC2604	
Q2401,Q2402	KNOFS1 and KNOFS3 are short-circuited.
	[SB2][SC1][SC2][SD1] are 60 inches model only.
each SCAN IC	
Q2764,D2768,R2764	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2424,Q2429	NOFS is short-circuited.
D2606,Q2709-Q2711	
Q2604,Q2605,IC2602	
Q2418	PR-U is short-circuited.
Q2662,R2669,L2301,R2335	
Q2427	SOFT-G is short-circuited.
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2430	KNOFS2 is short-circuited.
Q2702,Q2705,R2714	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2703,Q2706,R2715	
Q2321-Q2326,Q2328-Q2331,Q2333,Q2334	L MSK is short-circuited.
Q2432	KNOFS4 is short-circuited.
Q2704,Q2707,R2717	
Q2106-Q2109,Q2111,Q2113,D2104-D2107	
IC3301,IC3302	The history of SD1 remains
Q1711,Q1721,Q1731,Q1741,Q1911,Q1921,Q1931,D1711,D1721,D1731,D1741,D1911,D1921,D1931	
TCP (IC1651,IC1661,IC1671,IC1681,IC1851,IC1861,IC1871)	When the TCP is damaged, replace the panel.
	Ref No. of L Assy (6 pieces) and S Assy (2 pieces) are common use.
L1201,R1217	
Q1402	
Q1405,Q1406	
Q1302,Q1304	
Q1403,Q1404	
Q1301,Q1303	
Q1108,Q1112,Q1116,Q1119	
IC3801	
Q3841,Q3861,Q3881,L3841,L3861,L3881 R3820,R3848,R3868,R3888	
	EXT_PD line : Open
	EXT_PD line : Open
	It becomes "UNKNOW" except above-mentioned PD detection condition.

5.4 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL


MAIN ASSY
IC7001
Panel Main ucom
IC5001
DisplayPort
Receiver
8
SCL_DP
SDA_DP
13
DC IN
V+6_5V
AUDIO ASSY
CN8301
CN4201
8
IC8341
PWM
SCL_AV
SDA_AV
15
SCL_E2P
SDA_E2P
IC7003
EEPROM
5
IC8401
D-Amp
A_NG_B
OTW
5
CN4002
6
TXD_MD
RXD_MD
REQ_MD
FAN NG1
FAN NG2
10
10
TEMP3_1
TEMP3_2
FAN
FAN
CN4101
11
11
CN3302
CN3301
CN1201
CN2401
IC1203
Temp. sensor
(T1)
IC2401
Temp. sensor
(T2)
CN1202
CN3304
CN1203
FAN CH ASSY
FAN ASSY
SENS ASSY

Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route.


DIGITAL ASSY
X DRIVE ASSY
R1019
Identification
resistor
X1
IC3601
MODULE_ucom
(MDU)
①
TXD_SQ
RXD_SQ
CLK_SQ
CE_SQ
BUSY_SQ
RST_SQ
IC3301
SQ_LSI
①
PSIZE
D22
STOP_SQ
PLANT
①
R3628
Identification
resistor
IC3607
MONO
MULTI
①
SQ_NON
V+6_5V
FU3801
5A_FUSE
IC3801
DDC
D11
③
RXD_MD
TXD_MD
RST2
IC3805
3.3V_RST_IC
DAC_DIN
DAC_DOUT
DAC_CLK
②
IC3605
DAC
④
TEMP1
E_SCL
E_SDA
IC3602
DIG
EEPROM
①
②
D24
SE1
IC3901
SENSOR
IC3902
BACKUP
EEPROM
SENSOR ASSY
I2C
UART
3-wire serial
Status notice line

[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode		
			MAIN	SUB	
Blue 1	Abnormality in the Sequence LSI	Communication error	SQ-LSI	RTRY	
		Drive stop		SQNO	
		Busy		BUSY	
		Version mismatching (hardware, software)		VER-HS	
		Version mismatching (hardware, backup memory)		VER-HM	
		Version mismatching (hardware, DIGITAL memory)		VER-HI	
Blue 2	Failure in module microcomputer device communication	Digital EEPROM	MD-DEV	EEPROM	
		Backup EEPROM		BACKUP	
		DAC IC		DAC	
Blue 3	Abnormality in RST2 power decrease	–	RST2	–	
Blue 4	Abnormality in panel temperature	Abnormality in high temperature	TMP-NG	TMP-H	
		Abnormality in low temperature		TMP-L	
Blue 5	Short-circuiting of the speakers D-AMP temperature abnormality	–	AUDIO	AUDIO	
				OTW	
Blue 6	Failure in communication with the module microcomputer	–	MODULE	–	
Blue 8	Failure in IIC communication with the panel main microcomputer	Display Port Rx	PM-IIC	DP-RX	
		PWM Processor		PWM	
Blue 10	Abnormality in FAN	FAN1	P-FAN	FAN1	
		FAN2		FAN2	
Blue 11	High temperature of the unit	T1 (for outside)	TEMP3	T1	
		T2 (for inside)		T2	
Blue 13	Failure in the power supply of the MAIN Assy	Vcc power decrease of the MAIN Assy	MB-POW	RELAY	
Blue 15	Failure in communication with the EEPROM of the panel main microcomputer	–	–	–	

Checkpoint	Possible Defective Part	Remarks
Communication line between MDU and SQ_LSI	IC3601/IC3301	SQ_IC communication not established. IC3301 may not have properly started up.
Drive detectig signal of MDU (SQ_NON)	CN3201/IC3601/ IC3301/IC3607	A shutdown occurs if the drive waveform periodically does not output. (When SQ_NON of MDU input is High, a shutdown is generated.)
Communication line between MDU and SQ_LSI (BUSY_SQ)	IC3601/IC3301	If BUSY_SQ remains high, a shutdown is generated.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connection between [X1] and [D22].	IC3601/IC3301	When the identification resistor of PSIZE/PLANT and software version of SEQ are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22], and [SE1] and [D24]. Communication line between MDU and BACKUP EEPROM	IC3601/ SENSOR Assy(IC3902)	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the SENSOR Assy are incoherent, a shutdown occurs.
Check the DIGITAL Assy and the software version of SEQ and the destination of the panel. Check the connections between [X1] and [D22]. Communication line between MDU and DIG EEPROM	IC3601/IC3602	When the identification resistor of PSIZE/PLANT and stored content of EEPROM on the DIGITAL Assy are incoherent, a shutdown occurs.
Communication line between MDU and DIG EEPROM	IC3601/IC3602	
Communication line between MDU and BACKUP EEPROM	IC3601/SENSOR Assy(IC3902)	
Communication line between MDU and DAC	IC3601/IC3605	
3.3 V output (TP3881) of DDC	IC3801/IC3805	If RST2 does not become high after the unit is turned on, a shutdown will be generated in several seconds.
V+6.5V of POWER SUPPLY Unit (Check [D25][P4]) FU3801 has melted.	POWER SUPPLY Unit, FU3801	Check if V + 6_5 V is started. Also check if the FU3801 on the DIGITAL Assy has been melted.
Installation environment	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is 85 °C or higher, a shutdown will be generated.
Installation environment Check the connection between [SE1] and [D24].	SENSOR Assy (IC3901)	If TEMP1 that is read by the module microcomputer is –20 °C or less, a shutdown will be generated. Also check the connection between SE1 and D24.
Speaker terminals	JA8551	Check if any speaker cable is in contact with the chassis.
D_AMP	IC8401	Check if the AMP output is short-circuited.
6.5 V power supply for AUDIO Assy	R4203	Check that V+6_5 V is activated in the AUDIO Assy. If it is not, check if R4203 on the MAIN Assy is open.
Periphery of the cable between MAIN and AUDIO, and POWER SUPPLY and AUDIO Assys	CN4201,CN8301, CN8302	Check if cables are firmly connected.
D_AMP	IC8401	Check the temperature of D_AMP IC that is 125 °C or higher.
Communication line between main ucom and module ucom	IC7001,IC3601	Check the communication lines (TXD_MD/RXD_MD/REQ_MD).
Periphery of the cable between MAIN and DIGITAL Assys	CN4002,CN3201	Check if cables are firmly connected.
Communication line between main ucom and DisplayPort Rx	IC7001,IC5001	Check the communication lines (SCL_DP/SDA_DP).
Communication line between main ucom and PWM processor	IC7001,IC8341	Check the communication lines (SCL_AV/SDA_AV).
Periphery of the 3.3 V regulator for IC	IC8331	Check that the voltage outputs it.
Periphery of the cable between MAIN and AUDIO Assys	CN4201,CN8301	Check if cables are firmly connected.
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the cable between MAIN and FAN Assys	CN4101,CN1201	Check if cables are firmly connected.
Periphery of the cable between FAN and FAN CH Assys	CN1202,CN3304	Check if cables are firmly connected.
Periphery of the cable between FAN CH Assy and Fan motor	CN3302	Check if cables are firmly connected.
Periphery of the fan control regulator	IC1202	Check that the voltage outputs it.
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the cable between MAIN and FAN Assys	CN4101,CN1201	Check if cables are firmly connected.
Periphery of the cable between FAN and FAN CH Assys	CN1202,CN3304	Check if cables are firmly connected.
Periphery of the cable between FAN CH Assy and Fan motor	CN3301	Check if cables are firmly connected.
Periphery of the fan control regulator	IC1201	Check that the voltage outputs it.
Ambient temperature of the panel section and temp. sensor	IC1203	Shutdown occurs if the periphery of IC1203 (temp. sensor) is high temperature.
Periphery of the cable between MAIN and FAN Assys	CN4101,CN1201	Check if cables are firmly connected.
Periphery of the cable between FAN and SENS Assys	CN1203,CN2401	Check if cables are firmly connected.
6.5 V power supply of the MAIN Assy	CN4502	Check if V + 6_5 V is started.
Communication line between main ucom and EEPROM	IC7001, IC7003	Check the communcation lines (SCL_E2P/SDA_E2P)

5.5 NON-FAILURE INFORMATION

[1] FUNCTION OF DECREASING THE BRIGHTNESS LEVEL

If the panel temperature becomes high or a video signal that requires activation of panel protection is input, the unit will protect the panel by decreasing the brightness level.
* While a mask is being displayed, the panel protection function will not be activated.

Protection Function Name	Purpose	Conditions	Protection Function	Remarks
High-temperature protection function 1	For protection of parts (DCF)	Panel temperature (TEMP1) reaches 65 °C.	Offsetting the ABL adjustment value	
High-temperature protection function 2	For reducing heating in the unit	Panel temperature (TEMP1) reaches 80 °C.	Limiting for the maximum number of SUS pulses	
Panel protection function 1	For preventing burn-in	A still image is displayed for 3 minutes or more.	Limiting for the maximum number of SUS pulses	The picture will be considered to be still if only the mouse cursor is moved.
Panel protection function 2	For protection of SCAN ICs	An image with which a particular load is applied to one SCAN IC is displayed. (See Fig. 2)	Limiting for the maximum number of SUS pulses	
Panel protection function 3	For protection against panel cracking	An image with which the heat of part in the panel is increased is displayed. (See Fig. 3)	Limiting for the maximum number of SUS pulses	

■ Limiting for the maximum number of SUS pulses

By gradually decreasing the limit for the maximum number of SUS pulses, the temperature of the panel will be lowered.

- The limit for the maximum number of SUS pulses will be decreased by 8 per 5 seconds.
- The lower limit for the maximum number of SUS pulses is about 700.
- The maximum number of SUS pulses will begin to increase gradually if the conditions that led to activation of the protection function return to normal.

■ ABL adjustment value offset

By gradually offsetting the ABL adjustment value, the temperature of the panel will be lowered. The number of SUS pulses, which is determined based on the input APL (average picture level), will be decreased.

- The ABL adjustment value will be offset by one step per 30 seconds.
- The ABL adjustment value will be gradually restored if conditions that let to activation of the protection function return to normal.

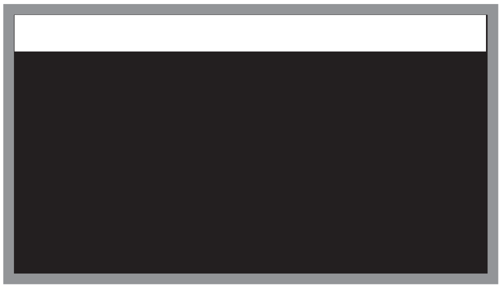


Fig. 2: Detection example: SCAN IC protection

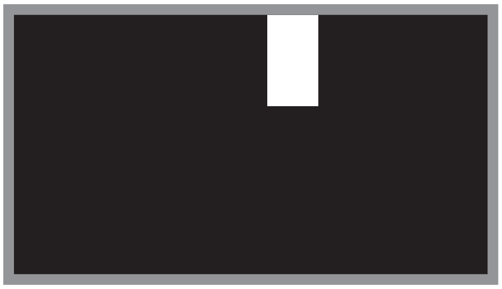


Fig. 3: Detection example: Protection against panel cracking

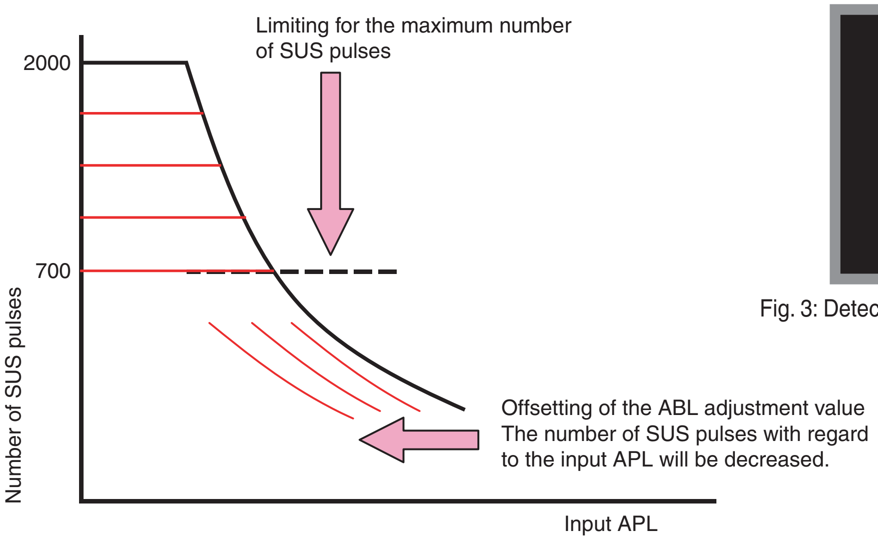


Fig. 1: Relationship between input APL and number of SUS pulses

5.6 OUTLINE OF THE OPERATION

[1] PANEL DRIVE-POWER ON/OFF FUNCTION

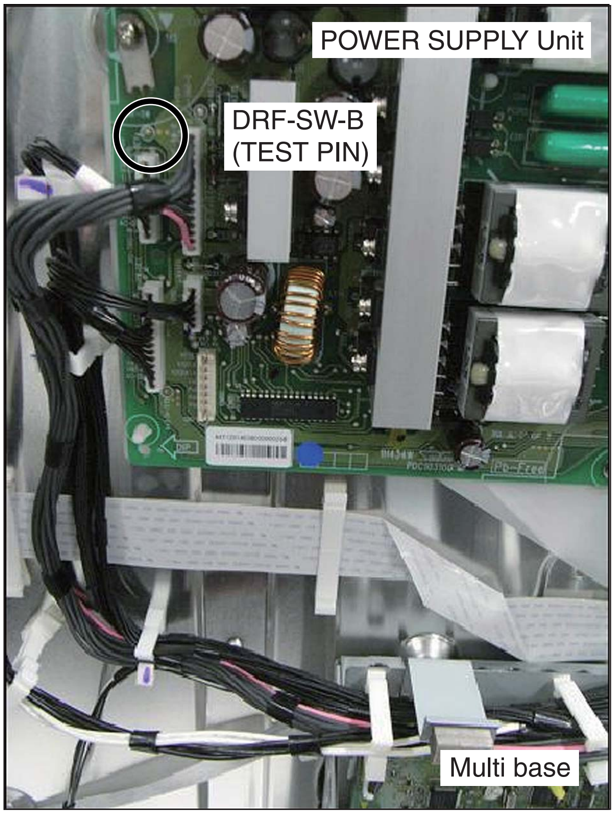
Function:
It is an operational mode where the digital signal processing performs circuit operation but the power is not supplied to the panel driving system (Vsus, VAddress) in order to avoid a power down (PD).

Application:
1. When it is necessary to check whether the signal output is correctly reaching the drive system in a repairing activity etc.
2. In the case of a PD, to determine whether the problem is with the panel drive-power supply or with the other system power supply.

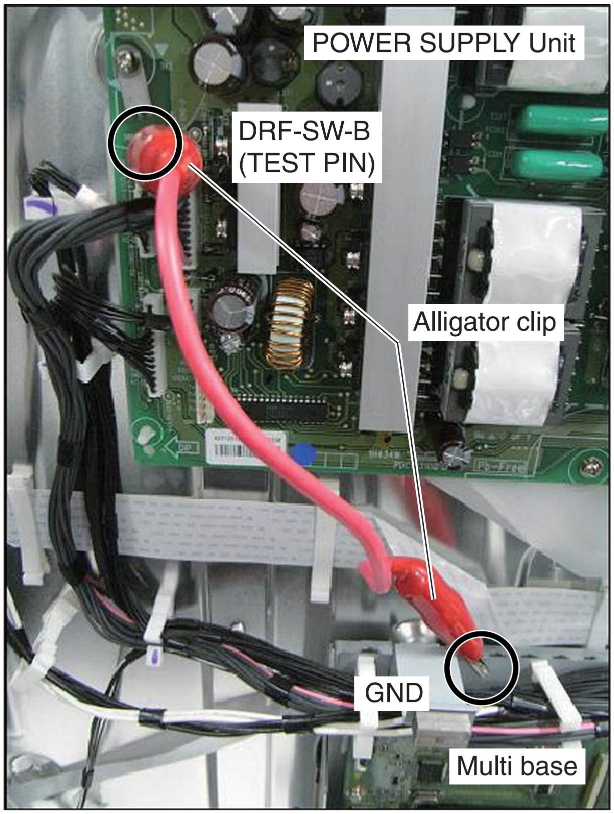
Method:
1. Short-circuit between the specified location of the POWER SUPPLY Unit and GND (Multi base section recommended), using a jumper with alligator clips (refer to the photos below).
2. Execute [DRV S00] by RS-232C command. ([DRV S01] for release)

Supplemental explanation:
- When the panel drive-power is in OFF state, there will be no PD, except PS_PD, as the PD signal has been muted.
- If the clip is removed in the OFF state of the panel drive-power, PD will take place at the instance of clip removal. Therefore, be sure to remove the clip after turning the power OFF.
- Under RS-232C command control, [DRV S01] (release) is possible during power ON. However, there is a possibility of damaging the set. Therefore, make this operation only after turning the power OFF.
- Command [DRV S00/S01] is effective even during standby.
- Setting with RS-232C commands or the remote control unit is enabled during Standby mode. However, if the unit is left unoperated for about 10 seconds in Standby mode after setting with RS-232C commands or the remote control unit is completed, the setting will become void.
- When the main power switch is set to OFF, no command is accepted.
- Setting with RS-232C commands or the remote control unit will become void if the AC power cord is unplugged, the main power switch is set to OFF, or the unit is left unoperated for about 10 seconds in Standby mode.

When the panel drive-power is ON



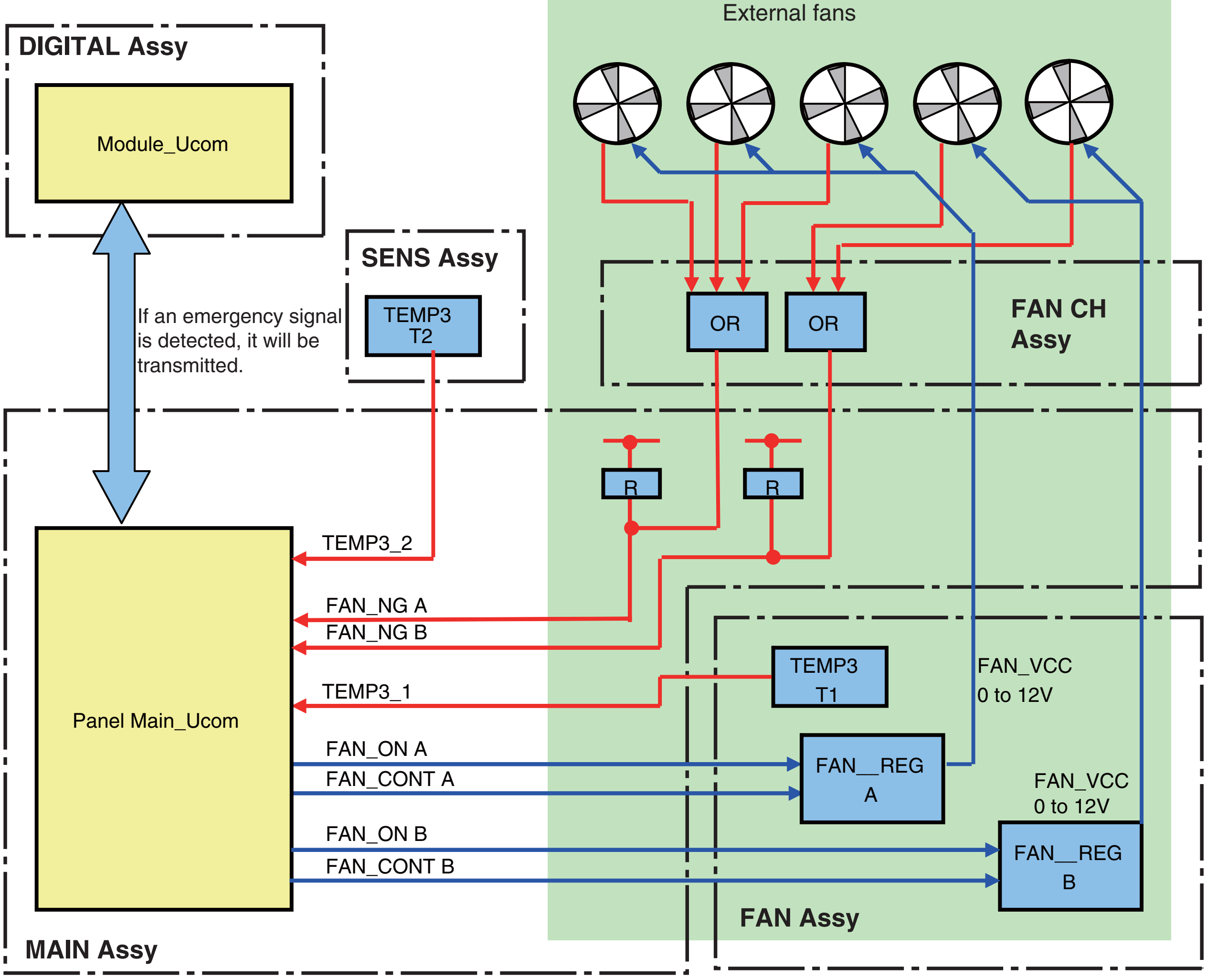
When the panel drive-power is OFF



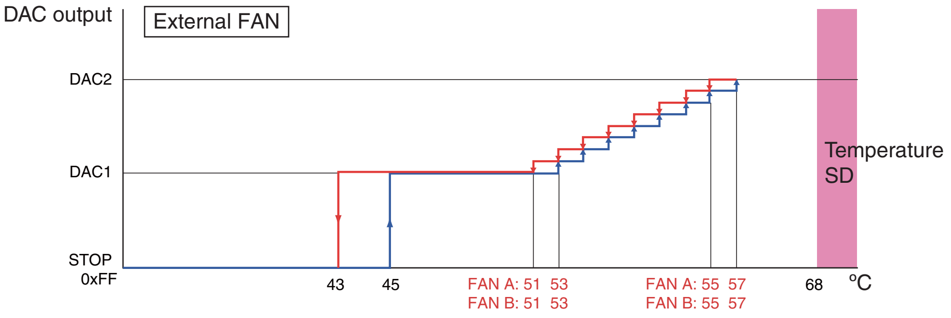
[2] SPECIFICATION OF THE FAN CONTROL

■ Block diagram

The external fans cool down the whole unit.


External fans
DIGITAL Assy
Module_Ucom
SENS Assy
TEMP3
T2
If an emergency signal is detected, it will be transmitted.
OR
OR
FAN CH Assy
R
R
TEMP3_2
FAN_NG A
FAN_NG B
TEMP3_1
Panel Main_Ucom
TEMP3
T1
FAN_VCC
0 to 12V
FAN_ON A
FAN_CONT A
FAN__REG
A
FAN_VCC
0 to 12V
FAN_ON B
FAN_CONT B
FAN__REG
B
FAN Assy
MAIN Assy

■ Operation specifications

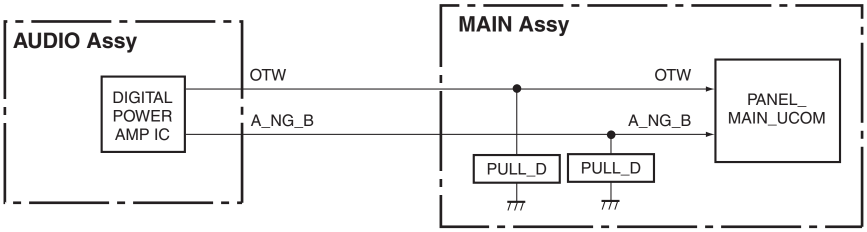


- The operating temperature of the fan is higher than the ambient temperature, because the sensor temperature is read by the microcomputer.
- If the critical values for signals are displayed in the address circuit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- Depending on the ventilation conditions behind the unit, the fan may be activated or be rotated at higher speed in response to values lower than the set temperature values shown above.
- When the temperature rises, the sensor voltage of TEMP3 increases.
- When the voltage of the DAC output from the Panel Main microcomputer decreases, rotation speed of the fan rises.
- Normally, the T1 temperature sensor output is used to control the fan.
  The T2 sensor detects the temperature inside the unit and assists T1.

[3] PROCESSING IN ABNORMALITY

Speaker short-circuit

● Circuit configuration



AUDIO Assy
DIGITAL POWER AMP IC
OTW
A_NG_B
MAIN Assy
OTW
A_NG_B
PANEL_MAIN_UCOM
PULL_D
PULL_D

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
A_NG_B	AUDIO	Shutdown occurs when the signal is "L." 30 mS ∗ 10 times	DC_IN = "H" (always) (Monitoring starts 2 sec after the above conditions are established.)	The main CPU operations described below will be performed when either "A_NG_B = L" or "OTW = L" is detected (established) under the monitoring conditions.
OTW	AUDIO	Shutdown occurs when the signal is "L." 120 mS ∗ 3 times		

● Operation specifications of the main CPU

(1) Establish the short-circuit of the speaker by the main CPU
- After a warning indication is displayed for 5 sec, a shutdown is generated (the blue LED flashes 5 times).
- A warning indication is displayed for all input-signal types.
- Example of a warning indication: "The speaker terminals are short-circuited. After reconnection, turn the unit on again."

(2) Display conditions
When the panel is on: A warning indication is displayed immediately.
When the panel is off: A warning indication is not displayed immediately but is displayed when the panel is turned on.

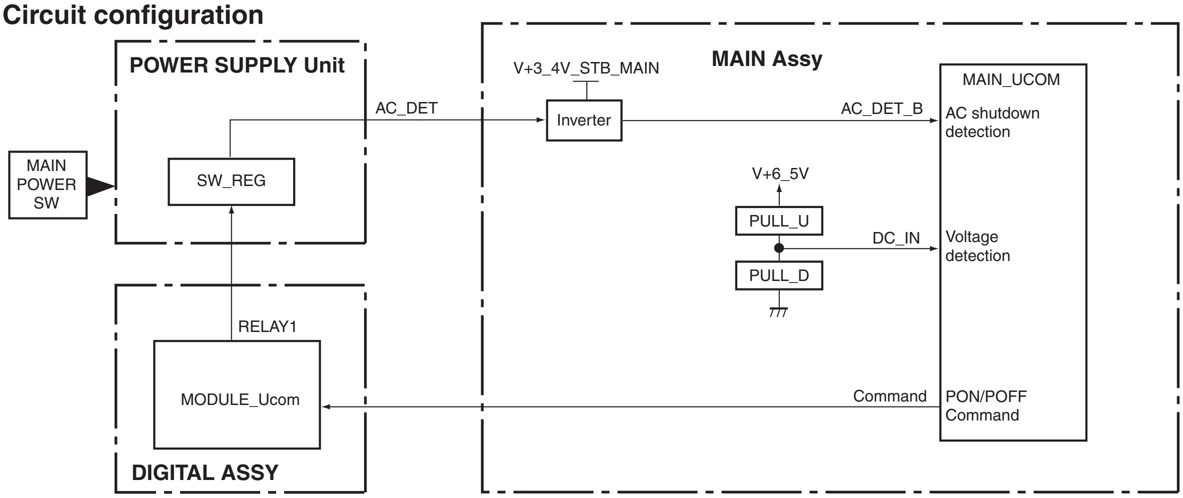
Note: A warning indication is displayed each time the panel is turned on if the conditions for a shutdown persist.

● Conditions for resetting the circuits

The circuits will be reset upon Standby ON/OFF.

Power supply

● Circuit configuration



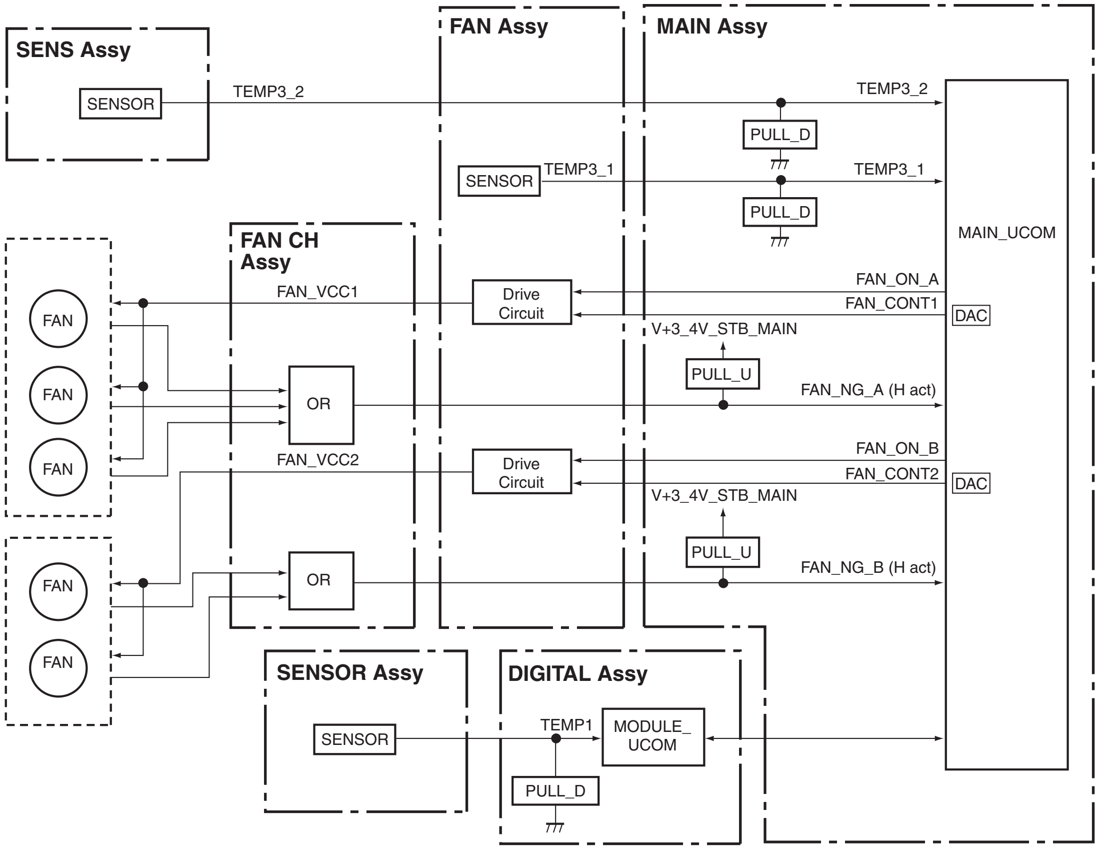
POWER SUPPLY Unit
MAIN POWER SW
SW_REG
AC_DET
RELAY1
MODULE_Ucom
DIGITAL ASSY
MAIN Assy
V+3_4V_STB_MAIN
Inverter
AC_DET_B
MAIN_UCOM
AC shutdown detection
V+6_5V
PULL_U
DC_IN
Voltage detection
PULL_D
Command
PON/POFF Command

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
DC_IN	PANEL MAIN power (MB-POW)	If the signal to DC IN does not become H within 5 seconds after the PON command is issued, the unit will shut itself off.	• During panel screen ON	Shutdown occurs immediately Blue LED flashes 13 times

Fan and temperature sensor

● Circuit configuration


SENS Assy
SENSOR
TEMP3_2
FAN Assy
MAIN Assy
TEMP3_2
PULL_D
SENSOR
TEMP3_1
TEMP3_1
PULL_D
MAIN_UCOM
FAN CH Assy
FAN_VCC1
Drive Circuit
FAN_ON_A
FAN_CONT1
DAC
V+3_4V_STB_MAIN
PULL_U
FAN_NG_A (H act)
FAN
FAN
FAN
OR
FAN_VCC2
Drive Circuit
FAN_ON_B
FAN_CONT2
DAC
V+3_4V_STB_MAIN
PULL_U
FAN_NG_B (H act)
FAN
FAN
OR
SENSOR Assy
SENSOR
DIGITAL Assy
TEMP1
MODULE_UCOM
PULL_D

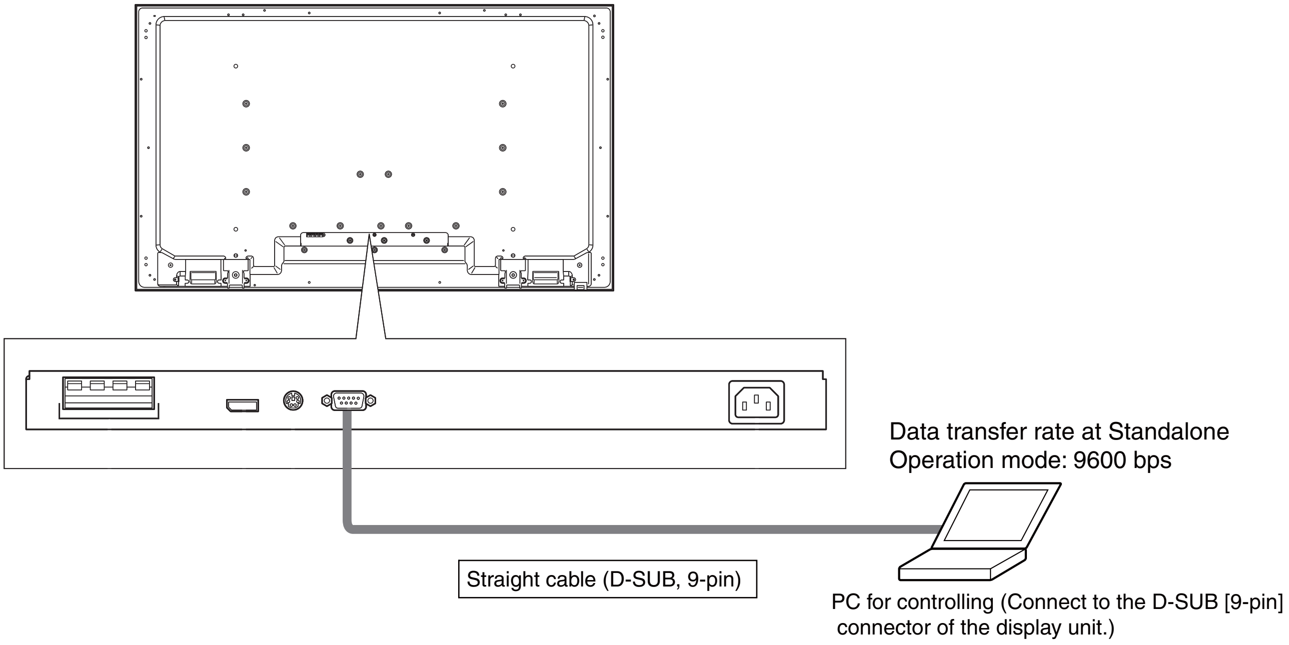
● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
FAN_NG_A FAN_NG_B	FAN	Shutdown occurs when the signal is "H." 1 S ∗ 15 times	DC_IN = H and FAN_ON_A = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times
TEMP1	Panel temperature is high	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 200 mS ∗ 5 times	Digital video RST2 = H	Shutdown occurs after waiting for 30 sec. Blue LED flashes 4 times
	Panel temperature is low			Shutdown occurs after waiting for 3 sec. Blue LED flashes 4 times
TEMP3_1	Ambient temperature of the display	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times	DC_IN = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. Blue LED flashes 11 times
TEMP3_2	Inside temperature of the display	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times	DC_IN = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. Blue LED flashes 11 times

[4] Standalone Operation Mode

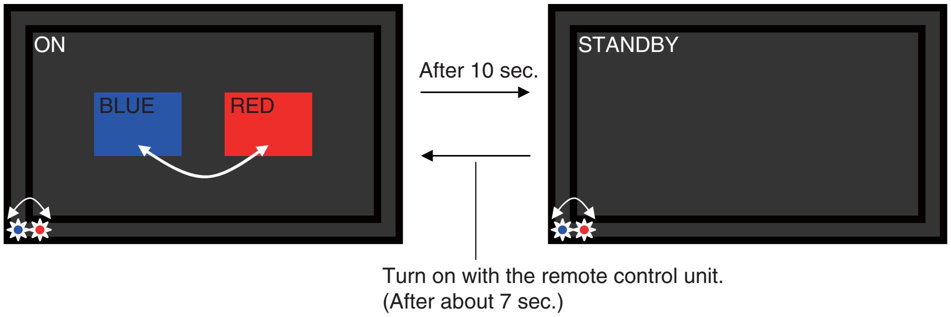
Standalone Operation mode is available with the KRP-600P and KRP-500P, by issuing the RS-232C command shown below. After disconnecting the system cable, connect an RS-232C cable to the display unit to issue a command.

SYSS00: Standalone Operation mode
SYSS01: System Operation mode


Data transfer rate at Standalone Operation mode: 9600 bps
Straight cable (D-SUB, 9-pin)
PC for controlling (Connect to the D-SUB [9-pin] connector of the display unit.)

Notes:

- To update the software for the display, disconnect the system cable, connect an RS-232C cable (straight), then perform updating.
- During System Operation mode, most of the RS-232C commands are invalid.
- The setting data during Standalone Operation mode immediately before the display is turned off will be stored in memory. After finishing operation in Standalone Operation mode, be sure to issue the SYSS01 command to return the display to System Operation mode before reconnecting it to the MR. If the display is connected to the MR without returning it to System Operation mode, the MR will automatically enter Standby mode soon after it is turned on, in which case no image will be displayed even though the display is turned on.
- No audio nor video signals are output if any display port cable other than the one for this display is connected to its system cable port (terminal). The mask signal (output in response to a mask command) is the only video output available during Standalone Operation mode.
- During normal System Operation mode (SYSS01) the display monitors the connection status with the MR. If communication between the MR and the display cannot be established for any reason, such as disconnection of the system cable or MR's AC power being off, a system error warning will be indicated with the LED and on the mask screen for about 10 seconds, after which the display will automatically shut itself off. (Even after power-off, flashing of the LED for warning continues.)


ON
BLUE
RED
After 10 sec.
STANDBY
Turn on with the remote control unit.
(After about 7 sec.)

5.7 OUTLINE OF RS-232C COMMAND

[1] PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.
- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

[2] USING RS-232C COMMANDS

Issue the SYSS00 command to set the unit to Standalone Operation mode.

5.8 LIST OF RS-232C COMMANDS

Note: While the display is in System Operation mode (SYSS01) with the Media Receiver (MR,) among the received commands via the RS-232C connector on the display, only the SYS commands are valid.
To enable other RS-232C commands, set the display to Standalone Operation mode (SYSS00).

■ RS-232C command list

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
A							
ABL	***	To adjust the upper limit of power	●		MOD	●	
ALM	S00	To enable SD operation of the display main unit		●	PM		
	S01	To disable SD operation of the display main unit		●	PM		
AP0	S**	Addresses L1 and L2 setting	●		MOD	●	For enabling changed setting, it is necessary to turn the unit off then back on again.
AP1	S**	Addresses L3 and L4 setting	●		MOD	●	
AP2	S**	Addresses U1 and U2 setting	●		MOD	●	
AP3	S**	Addresses U3 and U4 setting	●		MOD	●	
APN	***	Average number of pulses for 1V	●		MOD	●	
AMP	S00	To set audio muting to OFF		●			
	S01	To set audio muting to ON		●			
B							
BCP		To copy EEPROM data for backup	●		MOD	●	
BRA	S01	To set the baud rate for the RS-232C connector on the panel to 1200 bps		●	PM		Corresponding to reception via the RS-232C connector on the display
	S02	To set the baud rate for the RS-232C connector on the panel to 2400 bps		●	PM		
	S03	To set the baud rate for the RS-232C connector on the panel to 4800 bps		●	PM		
	S04	To set the baud rate for the RS-232C connector on the panel to 9600 bps		●	PM		
BSM	S00	Afterimage/Burn-In Reduction mode: OFF	●				
	S01	Afterimage/Burn-In Reduction mode: ON	●				
BZS	S00	Bezel Setup: EP		●	PM		For use by engineers
	S01	Bezel Setup: R1 (Black)		●	PM		
	S02	Bezel Setup: R2 (White)		●	PM		
	S03	Bezel Setup: R3 (Beige)		●	PM		
C							
CAL		To clear the NG (SD) history managed by the Panel Main microcomputer		●	PM	●	
CBU		To set Backup setting to “No backup”	●		MOD	●	
CHM		To clear hour-meter data	●		MOD	●	
CMT		To clear stored maximum-temperature data	●		MOD	●	
CPC		To clear the power-on count	●		MOD	●	
CPD		To clear the power-down history	●		MOD	●	
CPM		To clear pulse-meter data	●		MOD	●	
CSD		To clear the shutdown history of the DIGITAL Assy of the display unit	●		MOD	●	
CSF	S00	Color sensor function: OFF	●				
	S01	Color sensor function: ON	●				
CSM	S01	Color Space mode 1: Pioneer original standard	●				
	S02	Color Space mode 2: In compliance with the EBU standard	●				
CSB	***	Color sensor blue coefficient	●		MOD	●	
CSG	***	Color sensor green coefficient	●		MOD	●	
CSR	***	Color sensor red coefficient	●		MOD	●	
CTP	S00	Color temperature setting: OFF	●				
	S01	Color temperature setting: LOW	●				
	S02	Color temperature setting: MID LOW	●				
	S03	Color temperature setting: MID	●				
	S04	Color temperature setting: MID HIGH	●				
	S05	Color temperature setting: HIGH	●				
D							
DIZ	S00	Dither/L dither: OFF, noise: OFF	●			●	
	S01	Dither/L dither: ON, noise: ON	●			●	
	S02	Dither/L dither: OFF, noise: ON	●			●	
	S03	Dither/L dither: ON, noise: OFF	●			●	
DRV	S00	Panel drive-power: OFF	●				
	S01	Panel drive-power: ON	●				

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
F							
FAJ		To set the flag for DIGITAL Assy adjustment to “Adjusted”	●		MOD	●	
FAN		Factory mode: OFF	●	●		●	
FAY		Factory mode: ON	●	●			
FBM	S00	OFF (disabling in-phase SUS drive)	●		MOD	●	For enabling changed setting, it is necessary to turn the unit off then back on again.
	S01	MODE 1 (enabling in-phase SUS drive)	●		MOD	●	
FCP	S00	To cancel Panel FAN Control mode (Normal mode)		●	PM	●	
	S01	To set to Panel FAN Control MAX mode		●	PM	●	
	S02	To set to Panel FAN Control MIN mode		●	PM	●	
	S03	To set to Panel FAN Control STOP mode		●	PM	●	
FSP		To set the Panel main microcomputer to factory-preset values		●	PM	●	
L							
LED	S00	Display front indicators: All unlit		●		●	Corresponding to reception via the RS-232C connector on the display
	S02	Display front indicators: Normal operation		●		●	
	S10	Display front indicators: ON lit		●		●	
	S11	Display front indicators: STANDBY lit		●		●	
M							
MIR	S00	Mirror indication mode: OFF	●				
	S01	Mirror indication mode: Flip horizontal	●				
	S02	Mirror indication mode: Flip vertical	●				
	S03	Mirror indication mode: Flip horizontal and vertical	●				
MKC	S00	MASK OFF	●		MOD		
	S01	H RAMP (Slant 1) M	●		MOD	●	
	S02	H RAMP (Slant 4) M	●		MOD	●	
	S03	Slanting ramp M	●		MOD	●	
	S04	30 for aging	●		MOD	●	
	S05	05 for aging	●		MOD	●	
	S06	Afterimage wiping 1	●		MOD	●	
	S07	Afterimage wiping 2	●		MOD	●	
	S08	White (luminance change)	●		MOD	●	
	S09	Peak detection raster	●		MOD	●	
	S10	Address-lack check	●		MOD	●	
	S11	To scroll vertical green lines	●		MOD	●	
	S12	To scroll horizontal green lines	●		MOD	●	
	S13	To scroll vertical ramp vertically (white)	●		MOD	●	
	S14	To scroll vertical ramp vertically (green)	●		MOD	●	
	S15	To scroll horizontal ramp horizontally (white)	●		MOD	●	
	S16	To scroll horizontal ramp horizontally (green)	●		MOD	●	
	S17	Crosshatch + Window	●		MOD	●	
MKS	S00	MASK OFF	●		MOD		
	S01	H RAMP (Slant 1)	●		MOD	●	
	S02	H RAMP (Slant 4)	●		MOD	●	
	S03	V RAMP (Slant 1)	●		MOD	●	
	S04	Slanting ramp	●		MOD	●	
	S05	Window (Hi= 870, Lo= 102)	●		MOD	●	
	S06	Window (Hi= 1023, Lo= 102)	●		MOD	●	
	S07	Window (Hi= 1023, Lo= 000)	●		MOD	●	
	S08	Window (Hi= 1023) 4%	●		MOD	●	
	S09	Window (Hi= 1023) 1.25%	●		MOD	●	
	S10	Window (1/7LINE)	●		MOD	●	
	S11	STRIPE (MGT/GRN)	●		MOD	●	
	S12	STRIPE (GRN/MGT)	●		MOD	●	
	S13	Checker in monochrome (1 line)	●		MOD	●	
	S14	Checker in monochrome (2 lines)	●		MOD	●	
	S15	Checker in monochrome (4 lines)	●		MOD	●	
	S16	Checker in monochrome (8 lines)	●		MOD	●	
	S17	COLOR BAR	●		MOD	●	
	S18	Slanting lines	●		MOD	●	
	S19	Checker in black and red (1 line)	●		MOD	●	
	S20	Checker in black and red (2 lines)	●		MOD	●	

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
M							
MKS	S21	Checker in black and red (4 lines)	●		MOD	●	
	S22	Checker in black and red (8 lines)	●		MOD	●	
	S23	Afterimage wiping (RGB zigzag, V reverse)	●		MOD	●	
	S24	Black raster (maximum pulse count)	●		MOD	●	Change of the Peak Brightness Detection function (PKD) impossible
	S25	1 for perfect linear	●		MOD	●	
	S26	2 for perfect linear	●		MOD	●	
	S27	3 for perfect linear	●		MOD	●	
	S28	4 for perfect linear	●		MOD	●	
	S29	RGB checker 1	●		MOD	●	
	S30	RGB checker 2	●		MOD	●	
	S31	Window RED (RED= 1023)	●		MOD	●	
	S32	Window GREEN (GREEN= 1023)	●		MOD	●	
	S33	Window BLUE (BLUE= 1023)	●		MOD	●	
	S34	Horizontal stripes for even-numbered lines	●		MOD	●	
	S35	Horizontal stripes for odd-numbered lines	●		MOD	●	
	S36	Afterimage test 1	●		MOD	●	
	S37	Afterimage test 2	●		MOD	●	
	S38	Afterimage test 3	●		MOD	●	
	S39	Afterimage test 4	●		MOD	●	
	S40	Slanting ramp in Red only	●		MOD	●	
	S41	Slanting ramp in Green only	●		MOD	●	
	S42	Slanting ramp in Blue only	●		MOD	●	
	S43	1 for checking lighting of the display	●		MOD	●	
	S44	2 for checking lighting of the display	●		MOD	●	
	S45	5 for perfect linear	●		MOD	●	
	S46	6 for perfect linear	●		MOD	●	
	S47	7 for perfect linear	●		MOD	●	
	S48	8 for perfect linear	●		MOD	●	
	S49	Mask for ABL adjustment	●		MOD	●	
MKR	S00	MASK OFF	●		MOD		
	S01	Raster - White	●		MOD	●	
	S02	Raster - Red	●		MOD	●	
	S03	Raster - Green	●		MOD	●	
	S04	Raster - Blue	●		MOD	●	
	S05	Raster - Black	●		MOD	●	
	S06	Raster - Cyan	●		MOD	●	
	S07	Raster - Magenta	●		MOD	●	
	S08	Raster - Yellow	●		MOD	●	
	S09	Raster - Light purple	●		MOD	●	
	S10	Raster - Pink	●		MOD	●	
	S11	Raster - Yolk-colored	●		MOD	●	
	S12	Raster - Light blue	●		MOD	●	
	S13	Raster - Beige	●		MOD	●	
	S14	Raster - Red 996+	●		MOD	●	
	S15	Raster - Red 1023+	●		MOD	●	
	S16	Raster - Gren 1023+	●		MOD	●	
	S17	Raster - Blue 1023+	●		MOD	●	
	S18	Raster - Red 626+	●		MOD	●	
	S19	Raster - Green 718+	●		MOD	●	
	S20	Raster - Blue 626+	●		MOD	●	
	S21	Raster - Gray 120	●		MOD	●	
	S22	Raster - Cyan 169	●		MOD	●	
	S23	Raster - Magenta 169	●		MOD	●	
	S24	Raster - Yellow 169	●		MOD	●	
	S25	Raster - Gray 307	●		MOD	●	

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
N							
NGP	S00	Negative/positive inverse: OFF	●				
	S01	Negative/positive inverse: ON	●				
P							
PAV	S00	AV selection: FACTORY	●				
	S01	AV selection: STANDARD/PERFORMANCE	●				
	S02	AV selection: DYNAMIC	●				
	S03	AV selection: MOVIE	●				
	S04	AV selection: GAME	●				
	S05	AV selection: SPORTS	●				
	S06	AV selection: PURE	●				
	S07	AV selection: USER	●				
	S08	AV selection: isf-DAY	●				
	S09	AV selection: isf-NIGHT	●				
	S10	AV selection: OPTIMUM	●				
	S11	AV selection: isf-AUTO	●				
	S12	AV selection: Standerd	●				
	S13	AV selection: Reserved (Australian standard)	●				
PBH	***	Panel white balance adjustment-Blue high-light	●		MOD	●	
PBL	***	Panel white balance adjustment-Blue low-light	●		MOD	●	
PBX	***	Panel Bx measurement value	●		MOD	●	
PBY	***	Panel By measurement value	●		MOD	●	
PCS	S00	Normal operation	●				
	S01	Catalog specifications operation	●				
PDM	S00	To enable power-down operation (To input a PD signal to the POWER SUPPLY Unit)	●				
	S01	To disable power-down operation (Not to input a PD signal to the POWER SUPPLY Unit)	●				
PES	S00	Common to displays for consumer use: Standard	●				
	S01	Common to displays for consumer use: Power-save 1	●				
	S02	Common to displays for consumer use: Power-save 2	●				
	S10	Domestic standard for displays for consumer use: Standard	●				
	S11	Domestic standard for displays for consumer use: Power-save 1	●				
	S12	Domestic standard for displays for consumer use: Power-save 2	●				
PFL	S**	Correction of luminance at the center of the screen	●				
	S00	Correction of luminance at the periphery of the screen: OFF	●				
	S01	Correction of luminance at the periphery of the screen: Fixed at ON	●				
	S02	Correction of luminance at the periphery of the screen: APL-interlocked to ON	●				
PFN		Panel module: Factory mode OFF	●			●	
PFS		Panel module: Factory-preset settings	●		MOD	●	
PFY		Panel module: Factory mode ON	●				Mask setting and MTB picture-quality settings remain the same.
PGB	S00	Blue gamma setting: Straight	●				
	S01	Blue gamma setting: Fixed at 1.6	●				
	S02	Blue gamma setting: Fixed at 1.7	●				
	S03	Blue gamma setting: Fixed at 1.8	●				
	S04	Blue gamma setting: Fixed at 1.9	●				
	S05	Blue gamma setting: Fixed at 2.0	●				
	S06	Blue gamma setting: Fixed at 2.1	●				
	S07	Blue gamma setting: Fixed at 2.2	●				
	S08	Blue gamma setting: Fixed at 2.3	●				
	S09	Blue gamma setting: Fixed at 2.4	●				
	S10-31	Blue gamma setting: Customized	●				
PGG	S00	Green gamma setting: Straight	●				
	S01	Green gamma setting: Fixed at 1.6	●				
	S02	Green gamma setting: Fixed at 1.7	●				
	S03	Green gamma setting: Fixed at 1.8	●				
	S04	Green gamma setting: Fixed at 1.9	●				
	S05	Green gamma setting: Fixed at 2.0	●				
	S06	Green gamma setting: Fixed at 2.1	●				
	S07	Green gamma setting: Fixed at 2.2	●				

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
P							
PGG	S08	Green gamma setting: Fixed at 2.3	●				
	S09	Green gamma setting: Fixed at 2.4	●				
	S10-31	Green gamma setting: Customized	●				
PGH	***	Panel white balance adjustment-Green high-light	●		MOD	●	
PGL	***	Panel white balance adjustment-Green low-light	●		MOD	●	
PGX	***	Panel Gx measurement value	●		MOD	●	
PGY	***	Panel GY measurement value	●		MOD	●	
PGR	S00	Red gamma setting: Straight	●				
	S01	Red gamma setting: Fixed at 1.6	●				
	S02	Red gamma setting: Fixed at 1.7	●				
	S03	Red gamma setting: Fixed at 1.8	●				
	S04	Red gamma setting: Fixed at 1.9	●				
	S05	Red gamma setting: Fixed at 2.0	●				
	S06	Red gamma setting: Fixed at 2.1	●				
	S07	Red gamma setting: Fixed at 2.2	●				
	S08	Red gamma setting: Fixed at 2.3	●				
	S09	Red gamma setting: Fixed at 2.4	●				
	S10-31	Red gamma setting: Customized	●				
PKD	S00	Peak Brightness Detection: OFF	●			●	
	S01	Peak Brightness Detection: ON	●			●	
PKL	S00	No brightness limitation: 100%	●				
	S01	Brightness limitation1: 87%	●				
	S02	Brightness limitation2: 73%	●				
	S03	Brightness limitation3: 60%	●				
	S04	Brightness limitation4: 52%	●				
	S05	Brightness limitation5: 40%	●				
	S06	Brightness limitation6: 27%	●				
	S07	Brightness limitation7: 13%	●				
PMT	S00	To cancel panel muting	●				
	S01	Panel muting	●				Muting cannot be performed while the built-in mask signal output is being displayed.
POF		To turn the unit OFF	●	●	PM		
PON		To turn the unit ON	●	●	PM		
PPT	S00	Panel Protection function: OFF	●			●	
	S01	Panel Protection function: ON	●			●	
PRH	***	Panel white balance adjustment-Red high-light	●		MOD	●	
PRL	***	Panel white balance adjustment-Red low-light	●		MOD	●	
PRX	***	Panel Rx measurement value	●		MOD	●	
PRY	***	Panel Ry measurement value	●		MOD	●	
Q							
QAJ		To acquire various adjustment values	●				
QAL		To acquire the NG (SD) history managed by the Panel Main microcomputer		●			
QPB		To acquire various data managed by the Panel Main microcomputer		●			
QPD		To acquire the history of power-down places	●				
QPM		To acquire pulse-meter data	●				
QPW		To acquire white balance adjustment data of the panel	●				
QPF		To acquire characteristics/function settings data of the panel	●				
QS1		To acquire panel information, such as software versions	●				
QS2		To acquire panel status data, such as acquired temperatures of the panel in cases of operation changes	●				
QS3		To acquire panel information other than the above	●				
QS5		To acquire panel information (Individual functions)	●				
QSB		To acquire versions of various microcomputers of the panel main unit		●			
QSP		To acquire subversions of various microcomputers of the panel	●				
QSD		To acquire shutdown data	●				
QSI		To acquire signal-related data	●				

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
R							
R1K	***	First reset (wedge width)	●		MOD	●	
R2K	***	Second reset (wedge width)	●		MOD	●	
RBL	S00-7	Correction of panel deterioration, Blue level 0 to 7	●		MOD	●	For enabling changed setting, it is necessary to turn the unit off then back on again.
RGL	S00-7	Correction of panel deterioration, Green level 0 to 7	●		MOD	●	
RLS	S00	Room light sensor operation: OFF	●				
	S01-5	Room light sensor operation: 1 to 5	●				
RRL	S00-7	Correction of panel deterioration, Red level 0 to 7	●		MOD	●	For enabling changed setting, it is necessary to turn the unit off then back on again.
S							
SAT	***	Timing adjustment between the scan and address	●		MOD	●	
SCW	S00	Normal operation	●				
	S01	Warning, depiction in the blue window (left)	●				
	S02	Warning, depiction in the red window (right)	●				
SDM	S00	To enable shutdown operation	●				
	S01	To disable shutdown operation	●				
SFR	S01-8	Measurement against AM radio noise: Patterns 1 to 8	●		MOD	●	For enabling changed setting, it is necessary to turn the unit off then back on again.
SKM	S00	Streaking Correction mode: OFF	●		MOD	●	
	S01-8	Streaking Correction mode: 1 to 8	●		MOD	●	
SMC	S00	Smooth clear driving: OFF	●			●	
	S01	Smooth clear driving: ON	●			●	
SN0	***	Serial No. setting 0 (Panel)	●		MOD	●	
SN1	***	Serial No. setting 1 (Panel)	●		MOD	●	
SN2	***	Serial No. setting 2 (Panel)	●		MOD	●	
SN3	***	Serial No. setting 3 (Panel)	●		MOD	●	
SN4	***	Serial No. setting 4 (Panel)	●		MOD	●	
SQM	S01	VIDEO sequence setting	●				
	S02	PC sequence setting	●				
	S03	Retake sequence setting	●				
SSM	S00	SSCG OFF	●			●	
	S01	SSCG ON	●			●	
SWA	***	Estimate value for the color of the light source (absolute value)	●				
SWF	S00	Reflection of estimate value for the color of the light source: OFF	●				
	S01	Reflection of estimate value for the color of the light source: ON	●				
SWR	***	Estimate value for the color of the light source (relative value)	●				
SYS	S00	Disabling monitoring of system cable disconnection (Standalone Operation)		●	PM		Effective only for the RS-232C connector on the panel
	S01	Enabling monitoring of system cable disconnection (System Operation)		●	PM		Effective only for the RS-232C connector on the panel
T							
THS	S00	Interlocked operation of the theater port: OFF	●				
	S01	Interlocked operation of the theater port: ON	●				
U							
UAJ		To set the flag for DIGITAL Assy adjustment to “Not adjusted”	●		MOD	●	
V							
V1F	***	To adjust the reference value for Vyknofs 1 and 2 voltages	●		MOD	●	
V3F	***	To adjust the reference value for Vyknofs 3 voltage	●		MOD	●	
V4F	***	To adjust the reference value for Vyknofs 4 voltage	●		MOD	●	
VFQ	S02	To set the frequency during mask display to VD-50 Hz	●		MOD	●	
	S03	To set the frequency during mask display to VD-60 Hz	●		MOD	●	
	S05	To set the frequency during mask display to VD-72 Hz	●		MOD	●	
	S06	To set the frequency during mask display to VD-75 Hz-1	●		MOD	●	
	S07	To set the frequency during mask display to VD-75 Hz-2	●		MOD	●	
	S13	To set the frequency during mask display to PC-60 Hz	●		MOD	●	
VOF	***	To adjust the reference value for Vysnofs voltage	●		MOD	●	
VRP	***	To adjust the reference value for Vyprst voltage	●		MOD	●	
VSU	***	To adjust the reference value for Vsus voltage	●		MOD	●	
VX1	***	To adjust the reference value for Vxpofs1 voltage	●		MOD	●	
VX2	***	To adjust the reference value for Vxpofs2 voltage	●		MOD	●	
VYF	***	To adjust the reference value for ∆Vyknofs1,2/3/4 voltages	●		MOD	●	

Command		Function	Command Receiving UCOM		Last Memory	Effective only during FAY	Remarks
			MOD	PM			
W							
WBI	S00	Panel WB standard output mode: OFF	●			●	
	S01	Panel WB standard output mode: ON	●			●	
X							
X1B	***	3SF and after to First X SUS (oscillation increase amount)	●		MOD	●	
X3B	***	2SF to Third X SUS (oscillation increase amount)	●		MOD	●	
XSB	***	2SF to Repetition X SUS (oscillation increase amount)	●		MOD	●	
Y							
Y1K	***	1SF to Y SUSTAIL (wedge width)	●		MOD	●	
Y1Z	***	1SF to Y SUSTAIL (oscillation decrease amount)	●		MOD	●	
Y2B	***	2SF to Second Y SUS (oscillation increase amount)	●		MOD	●	
Y2K	***	2SF to Y SUSTAIL (wedge width)	●		MOD	●	
Y2Z	***	2SF to Y SUSTAIL (oscillation decrease amount)	●		MOD	●	
YNK	***	3SF and after (2-pulse SSF) to Y SUSTAIL (wedge width)	●		MOD	●	
YTK	***	3SF and after to Y SUSTAIL (wedge width)	●		MOD	●	
YTZ	***	3SF and after to Y SUSTAIL (oscillation decrease amount)	●		MOD	●	
YSB	***	2SF to Repetition Y SUS (oscillation increase amount)	●		MOD	●	

5.9 DETAILS OF RS-232C COMMANDS

[1] QS1 (PANEL STATUS)

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 3 (ECO) + 112 (DATA) + 2 (CS) = 117 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1
1	Resolution/Size	1 byte	F
2	Panel Generation	1 byte	9
3	Destination	1 byte	∗
4	Grade	1 byte	∗
5	Panel Product Form	1 byte	A
6	Boot version of Module microcomputer	3 byte	-01A
7	Program version of Module microcomputer	8 byte	-01A‘’’’
8	Boot version of sequence processor	3 byte	-01Z
9	Program version of sequence processor	8 byte	-01Z‘’’’
10	Panel information	8 byte	G9_50F_2
11	Derivative operation identification	1 byte	∗
12	Reserved (panel section)	7 byte	∗∗∗∗∗∗∗
13	, (comma)	1 byte	,
14	MTB generation	1 byte	9
15	MTB destination	1 byte	A
16	MTB grade	1 byte	H
17	MTB product form	1 byte	B
18	Program version of IF microcomputer	8 byte	-01A
19	Boot version of IF microcomputer	4 byte	01A
20	Program version of Main microcomputer	8 byte	-01A
21	Boot version of Main microcomputer	4 byte	01A
22	Common version of ASIC	8 byte	-01A
23	Boot version of ASIC	8 byte	01A
24	PRS version of ASIC	8 byte	-01A
25	PIC version of ASIC	8 byte	-01A
26	Common version of the Digital Tuner	8 byte	-0A
27	Boot version of the Digital Tuner	4 byte	01A
CS	2 Byte	2 byte	4A

11: Derivative Operation Identification	
∗	Standard model operation
1	Derivative model operation

14: MTB Generation	
9	G9

15: MTB Destination	
A	North America
C	China
E	Europe
G	General
J	Japan
U	Australia

16: MTB Grade	
H	Elite/One body Europe HD /System Europe HD/One body Australia
T	Regular/One body Europe SD
D	Derivative Model
∗	No Grade (Japan/General/China)

17: MTB Product Form	
B	One body model
S	System model

1: Resolution/Size	
F	50-FHD (1920∗1080)
G	60-FHD (1920∗1080)

2: Panel Generation	
9	G9

3: Destination	
∗	Commonness

4: Grade	
∗	Commonness
Z	Evaluation

5: Not used	
A	"A" fixed

10: Panel Information (8 Byte)		
1 to 2nd byte	G9	Generation information
4 to 5th byte	50	50 inch
	60	60 inch
6th byte	F	FHD
8th byte	3	50 inch 2nd PLANT (Reserved)
	2	50 inch 2nd PLANT
	1	50 inch 1st PLANT
	‘	Others

‘ = space

[2] QS2 (PANEL OPERATION DATA)

The command QS2 is for acquiring data on the panel's operational information.

Command Format	Effective Operation Modes	Function	Remarks
[QS2]	Every Time	Output of status	Return data: 3 (ECO) + 34 (DATA) + 2 (CS) = 39 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS2
1	Notify of the standby operation transition	1 byte	1
2	Adjustment flag of the main unit	1 byte	0
3	Adjustment-data backup flag	1 byte	0
4	"1st PD" data	1 byte	0
5	"2nd PD" data	1 byte	0
6	Color sensor data	1 byte	0
7	Reserved	2 byte	**
8	Temperature data (TEMP 1)	3 byte	128
9	SD data	1 byte	0
10	SD subcategory data	1 byte	0
11	Operation status induced by SD	1 byte	0
12	Reserved	3 byte	***
13	HOUR METER	8 byte	00000259
14	MASK indication	1 byte	0
15	Still picture detection	1 byte	0
16	SCAN protection detection	1 byte	0
17	Panel crack detection	1 byte	0
18	Address emergency detection	1 byte	0
19	Reserved	4 byte	****
CS	2 Byte	2 byte	4A

1: Power supply status	
P	During power ON
0	Shifting to Passive Standby is not possible.
1	Shifting to Passive Standby is possible.

2: Adjustment flag of the main unit	
0	Adjustment completed
1	Adjustment not completed

3: Adjustment-data backup flag	
0	Adjustment completed
1	Adjustment not completed

4, 5: PD data	
0	No PD data
2	POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	ADRS
A	X-DCDC
B	X-SUS
C	DIG-DCDC
F	UNKNOWN

6: Color sensor data	
-	Function OFF (including standby)
0	Normal
1	Hardware connection is not completed
2	Data mismatching

9: SD data	
0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

10-1: SD subcategory (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

10-2: SD subcategory (MDU-DEVICE)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

10-3: SD subcategory (Panel temperature)	
0	No SD-Sub data
1	Panel high temperature
2	Panel low temperature

11: Operation status induced by SD	
0	Normal
1	Relay-off completed
2	During warning indication

14: MASK indication	
0	MASK-OFF
1	MASK-ON

15 to 18: Detection of Each Protection function	
0	Normal operation
1	At detection of protection operation

[3] QS3 (OTHER DATA ON THE PANEL)

The command QS3 is for acquiring data on operational information of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QS3]	Every Time	Output of status	Return data: 3 (ECO) + 58 (DATA) + 2 (CS) = 63 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS3
1	SERIAL	15 byte	- - - - - - - - - - - - - - -
2	HOUR METER	8 byte	00000000
3	TOTAL HR METER	8 byte	00000000
4	PON COUNTER	8 byte	00000000
5	Panel temperature (*1)	5 byte	23.5
6	Reserved (TEMP0 acquisition)	5 byte	_ _ _._
7	MAX panel temperature history (*1)	5 byte	78.3
8	Reserved	4 byte	****
CS	2 Byte	2 byte	94

Note
(*1) : Centigrade scale

[4] QS5 (COLOR SENSOR DATA)

The command QS5 is for acquiring the color sensor information.

Command Format	Effective Operation Modes	Function	Remarks
[QS5]	Every Time	Output of status	Return data: 3 (ECO) + 45 (DATA) + 2 (CS) = 50 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS5
1	Color sensor data (Note)	1 byte	2
2	RED data of color sensor	4 byte	0425
3	GREEN data of color sensor	4 byte	2112
4	BLUE data of color sensor	4 byte	5000
5	Reserved	32 byte	** to **
CS	2 Byte	2 byte	94

Note: The color sensor data is output as the same data as QS2.

[5] QSP (SUB VERSION OF THE PANEL SECTION)

The command QSP is for acquiring sub version data on software of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QSP]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSP
1	MDUcom-PRG	8 byte	=01Y
2	MDUcom-DATA_TBL	8 byte	=01Y ’’’’
3	SQ_LSI-PRG	4 byte	=01Y
4	SQ_LSI-PIC_TBL	8 byte	=01Y ’’’’
5	SQ_LSI-SEQ_DATA	4 byte	=01Y
6	Reserved	8 byte	********
CS	2 Byte	2 byte	A3

[6] QAJ (PANEL ADJUSTMENT DATA)

The command QAJ is for acquiring the panel's factory-preset data.

Command Format	Effective Operation Modes	Function	Remarks
[QAJ]	Every Time	Output of status	Return data: 3 (ECO) + 84 (DATA) + 2 (CS) = 89 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QAJ
1	Vsus adjustment value	3 byte	128
2	Vysnofs adjustment value	3 byte	128
3	Vyprst adjustment value	3 byte	128
4	Vxpofs1 adjustment value	3 byte	128
5	Vxpofs2 adjustment value	3 byte	128
6	Vyknofs1,2 adjustment value	3 byte	128
7	Vyknofs3 adjustment value	3 byte	128
8	Vyknofs4 adjustment value	3 byte	128
9	Δ Vyknofs1,2/3/4 adjustment value	3 byte	128
10	Reserved	6 byte	******
11	R1K adjustment value	3 byte	128
12	R2K adjustment value	3 byte	128
13	Y1K adjustment value	3 byte	128
14	Y1Z adjustment value	3 byte	128
15	X1B adjustment value	3 byte	128
16	Y2B adjustment value	3 byte	128
17	X3B adjustment value	3 byte	128
18	YSB adjustment value	3 byte	128
19	XSB adjustment value	3 byte	128
20	YTK adjustment value	3 byte	128
21	YTZ adjustment value	3 byte	128
22	Y2K adjustment value	3 byte	128
23	Y2Z adjustment value	3 byte	128
24	YNK adjustment value	3 byte	128
25	SAT adjustment value	3 byte	128
26	Reserved	3 byte	***
27	AM radio countermeasure	1 byte	1
28	Reserved	2 byte	**
CS	2 Byte	2 byte	B7

27: AM radio countermeasure	
n	n: 1 to 8 (SUS frequency n)

[7] QPW (VIDEO ADJUSTMENT DATA OF THE PANEL)

The command QPW is for acquiring the factory-preset data about the video of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPW]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPW
1	Type of drive sequence (Note 1)	4 byte	60VS
2	ABL adjustment table	1 byte	1
3	Type of WB adjustment table (Note 1)	1 byte	1
4	ABL adjustment value	3 byte	128
5	R-HIGH adjustment value	3 byte	256
6	G-HIGH adjustment value	3 byte	256
7	B-HIGH adjustment value	3 byte	256
8	R-LOW adjustment value	3 byte	512
9	G-LOW adjustment value	3 byte	512
10	B-LOW adjustment value	3 byte	512
11	R gamma setting	2 byte	31
12	G gamma setting	2 byte	10
13	B gamma setting	2 byte	10
14	Streaking correction	1 byte	1
15	Center luminance correction	1 byte	0
16	Reserved	1 byte	*
17	Interlocked with APL	1 byte	0
18	Transition of protective operations	1 byte	0
19	Reserved	2 byte	**
CS	2 Byte	2 byte	37

1: Type of Drive sequence	
50VS	Video 50 Hz
60VS	Video 60 Hz
72VS	Video 72 Hz
75V1	Video 75-1 Hz
75V2	Video 75-2 Hz
60PS	PC 60 Hz

2: ABL adjustment table	
n	n: 1 to 3

3: Type of WB adjustment table	
n	n: 1 to 4

11, 12, 13: RGB Gamma setting	
n	00 to 31

15: Center luminance correction	
0	OFF
1	ON
2	ON (interlocked with APL)

17: Interlocked with APL	
0	OFF
1	ON
2	WB interlocked ON/γ OFF
3	WB interlocked OFF/γ ON

18: Transition of protective operations	
0	Upper limit state for brightness
1	Brightness being reduced
2	Lower limit state for brightness
3	Brightness being increased

Note 1: The "75 Hz-2" Drive Sequence type signals and WB Adjustment Table 4 are output only when "75 Hz-2" (VFQS07) is selected for internal signals (mask signals).
When external signals are selected and the Drive Sequence type is 75 Hz, "75 Hz-1" is output because "75 Hz-1" and "75 Hz-2" are not distinguished for external signals.

[8] QPF (FUNCTION OF THE PANEL)

The command QPF is for acquiring the characteristic and the function setting value of the panel.

Command Format	Effective Operation Modes	Function	Remarks
[QPF]	Every Time	Output of status	Return data: 3 (ECO) + 69 (DATA) + 2 (CS) = 74 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPF
1	R-REVISE setting value	1 byte	0
2	G-REVISE setting value	1 byte	0
3	B-REVISE setting value	1 byte	0
4	Reserved	3 byte	***
5	ADDRESS L1,L2 setting value	2 byte	01
6	ADDRESS L3,L4 setting value	2 byte	13
7	ADDRESS U1,U2 setting value	2 byte	32
8	ADDRESS U3,U4 setting value	2 byte	30
9	Reserved	4 byte	****
10	Streaking correction	1 byte	1
11	Full-screen black display mode	1 byte	1
12	Reserved	4 byte	****
13	PANEL RX	3 byte	512
14	PANEL RY	3 byte	512
15	PANEL GX	3 byte	512
16	PANEL GY	3 byte	512
17	PANEL BX	3 byte	512
18	PANEL BY	3 byte	512
19	Reserved	6 byte	******
20	Color sensor R coefficient	3 byte	***
21	Color sensor G coefficient	3 byte	***
22	Color sensor B coefficient	3 byte	***
23	Reserved	12 byte	** to **
CS	2 Byte	2 byte	37

1: 2: 3: RGB-REVISE setting value	
n	n: 0 to 7 (Level n)

5 to 8: ADDRESS α, β setting	
nm	n: 0 to 9 (Address α setting PHASE n)
	m: 0 to 9 (Address β setting PHASE m)

10: Streaking correction	
0	OFF
n	n: 1 to 8 (Mode n)

11: Full-screen black display mode	
0	OFF (In-phase SUS drive prohibition)
1	MODE1 (In-phase SUS drive permission)

[9] QPM (PULSE METER VALUE)

The command QPM is for acquiring the accumulated pulse count.

Command Format	Effective Operation Modes	Function	Remarks
[QPM]	Every Time	Output of status	Return data: 3 (ECO) + 40 (DATA) + 2 (CS) = 45 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPM
1	Pulse meter B 1	8 byte	00000000
2	Pulse meter B 2	8 byte	00000000
3	Pulse meter B 3	8 byte	00000000
4	Pulse meter B 4	8 byte	00000000
5	Pulse meter B 5	8 byte	00000000
CS	2 Byte	2 byte	E7

Note:
The minimum for a returned value of the pulse meter for each block (B1-B2) is one million.

[10] QPD (POWER DOWN LOGS)

The command QPD is for acquiring data from the 8 latest power-down (PD) logs.

Command Format	Effective Operation Modes	Function	Remarks
[QPD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QPD
1	Latest "1st PD" data	1 byte	A
2	Latest "2nd PD" data	1 byte	2
3	Data from the hour meter for the latest PD	8 byte	00010020
4	Second latest "1st PD" data	1 byte	E
5	Second latest "2nd PD" data	1 byte	9
6	Data from the hour meter for the second latest PD	8 byte	00008523
7	Third latest "1st PD" data	1 byte	4
8	Third latest "2nd PD" data	1 byte	3
9	Data from the hour meter for the third latest PD	8 byte	00004335
10	Fourth latest "1st PD" data	1 byte	2
11	Fourth latest "2nd PD" data	1 byte	0
12	Data from the hour meter for the fourth latest PD	8 byte	00000945
13	Fifth latest "1st PD" data	1 byte	4
14	Fifth latest "2nd PD" data	1 byte	0
15	Data from the hour meter for the fifth latest PD	8 byte	00000715
16	Sixth latest "1st PD" data	1 byte	A
17	Sixth latest "2nd PD" data	1 byte	2
18	Data from the hour meter for the sixth latest PD	8 byte	00000552
19	Seventh latest "1st PD" data	1 byte	A
20	Seventh latest "2nd PD" data	1 byte	0
21	Data from the hour meter for the seventh latest PD	8 byte	00000213
22	Eighth latest "1st PD" data	1 byte	D
23	Eighth latest "2nd PD" data	1 byte	0
24	Data from the hour meter for the eighth latest PD	8 byte	000001A7
CS	2 Byte	2 byte	27

• PD data	
0	No PD
2	P-POWER
3	SCAN
4	SCN-5V
6	Y-DCDC
7	Y-SUS
8	Address
A	X-DCDC
B	X-SUS
C	DIGI-DCDC
F	UNKNOWN

[11] QSD (SHUTDOWN LOGS of the Panel Section)

The command QSD is for acquiring the data from the 8 latest shutdown (SD) logs of the panel section.

Command Format	Effective Operation Modes	Function	Remarks
[QSD]	Every Time	Output of status	Return data: 3 (ECO) + 80 (DATA) + 2 (CS) = 85 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSD
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the hour meter for the latest SD	8 byte	00752013
4	Second latest SD data	1 byte	5
5	Second latest SD subcategory data	1 byte	0
6	Data from the hour meter for the second latest SD	8 byte	00495204
7	Third latest SD data	1 byte	2
8	Third latest SD subcategory data	1 byte	3
9	Data from the hour meter for the third latest SD	8 byte	00100355
10	Fourth latest SD data	1 byte	2
11	Fourth latest SD subcategory data	1 byte	5
12	Data from the hour meter for the fourth latest SD	8 byte	00075620
13	Fifth latest SD data	1 byte	1
14	Fifth latest SD subcategory data	1 byte	0
15	Data from the hour meter for the fifth latest SD	8 byte	00000852
16	Sixth latest SD data	1 byte	2
17	Sixth latest SD subcategory data	1 byte	2
18	Data from the hour meter for the sixth latest SD	8 byte	00000451
19	Seventh latest SD data	1 byte	0
20	Seventh latest SD subcategory data	1 byte	0
21	Data from the hour meter for the seventh latest SD	8 byte	00000000
22	Eighth latest SD data	1 byte	0
23	Eighth latest SD subcategory data	1 byte	0
24	Data from the hour meter for the eighth latest SD	8 byte	00000000
CS	2 Byte	2 Byte	7D

• SD data	
0	No SD
1	SQ_LSI
2	MDU-DEVICE
3	RST2
4	Panel temperature

• SD subcategory (SQ_LSI)	
0	No SD-Sub data
1	Communication error
2	Drive stop
3	BUSY
4	Version mismatching (H/S)
5	Version mismatching (H/M)
6	Version mismatching (H/I)

• SD subcategory (MDU-DEVICE)	
0	No SD-Sub data
1	EEPROM
2	BACKUP
3	DAC

• SD subcategory (Panel temperature)	
0	No SD-Sub data
1	TEMP1 (high temperature)
2	TEMP1 (low temperature)

[12] QSI (INPUT SIGNAL DATA)

The command QSI is for acquiring all data on input video signals.

Command Format	Effective Operation Modes	Function	Remarks
[QSI]	Every Time	Output of status	Return data: 3 (ECO) + 66 (DATA) + 2 (CS) = 71 Byte

Data Arrangement		Data Length	Output Example
ECO		3 Byte	QSI
1	Type of drive sequence (Note)	4 Byte	60VS
2	Type of ABL adjustment table (Note)	1 Byte	1
3	Type of WB adjustment table (Note)	1 Byte	1
4	Reserved	4 Byte	****
5	Total value of PRH	4 Byte	0256
6	Total value of PGH	4 Byte	0256
7	Total value of PBH	4 Byte	0256
8	Reserved	4 Byte	****
9	Total value of PRL	4 Byte	0512
10	Total value of PGL	4 Byte	0512
11	Total value of PBL	4 Byte	0512
12	Total value of ABL	3 Byte	128
13	V frequency distinction	4 Byte	6002
14	Reserved	4 Byte	****
15	APL acquiring data	4 Byte	1023
16	Number of SUS pulses	4 Byte	0457
17	Detection status of still picture	1 Byte	1
18	Detection status of cracking in the panel	1 Byte	1
19	Detection status of SCAN protection	1 Byte	1
20	Detection status of external protection	1 Byte	1
21	Transition of protection operations	1 Byte	0
22	Address emergency status	1 Byte	1
23	Detection status of reset operation	1 Byte	1
24	In-phase SUS mode status	1 Byte	1
25	Reserved	1 Byte	1
CS	2 Byte	2 Byte	27

Note: The types of drive sequence and ABL/WB table are output as the same data as QPW.

18 to 20: Each protection function	
0	Setting: OFF
1	Setting: ON (during wait)
2	Setting: ON (during operation)

21: Transition of protection operations	
0	Upper limit status for brightness
1	Brightness being reduced
2	Lower limit status for brightness
3	Brightness being increased

22: Address emergency status	
0	Normal status
1	Emergency status

23: Reset operation status	
A	All reset operation
2	Interlace 1/2 reset operation
4	Interlace 1/4 reset operation
L	Reset less operation (specifications operation)

24: In-phase SUS mode status	
0	Normal status
1	In-phase SUS mode status
2	Assist status at the cancellation

[13] DRV (PANEL DRIVE-POWER ON/OFF)

Panel drive-power ON/OFF (drive ON/OFF) is controllable.

Command Format	Operation		Remarks
	Effective Operation Modes	Function	
[DRV+S00]	Every time	DRIVE OFF	If a command is issued in Standby mode, and the unit is left unoperated for more than 10 seconds, the command will become void.
[DRV+S01]	Every time	DRIVE ON (default)	

Note: The function of the DRIVE OFF key on the remote control unit for servicing is the same as that of the DRVS00 command.
(A function equivalent to that of the DRVS01 command is not provided for the remote control unit for servicing.)

[14] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section “6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE” of the Service Manual for Media Receiver (KRP-M01).
[FAN]	During FAY	Adjustment command is invalid.	

[15] FAJ/UAJ/CBU/BCP (BACKUP FUNCTION FOR ADJUSTMENT VALUE)

When the DIGITAL Assy is to be replaced, adjustment values can be copied from the backup EEPROM to the EEPROM of the Assy for service.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAJ]	During FAY	To make the status of the EEPROM on the DIGITAL Assy "adjustment completed" and copy the data to the EEPROM for backup	This takes at least 350 msec.
[UAJ]		To make the status of the EEPROM on the DIGITAL Assy "adjustment not completed"	Only the status is changed, and the real data are not erased.
[CBU]		To make the status of the EEPROM on for backup "adjustment not completed"	Only the status is changed, and the real data are not erased. However, if the status of the EEPROM on the DIGITAL Assy is "adjustment completed," the data in the EEPROM of the DIGITAL Assy will be copied to the EEPROM for backup upon POF.
[BCP]		To copy the backup data from the EEPROM for backup to the EEPROM on the DIGITAL Assy	

[16] QSB

Data on models and versions of the Module microcomputer and Panel Main microcomputer can be acquired.

Command Format	Effective status	Function	Remarks
[QSB]	Every time	To acquire versions of various programs managed by the Panel Main and Module microcomputers	Return data: 3 (ECO) + 87 (DATA) + 2 (CS) = 92 Byte

Data Arrangement			Data Length	Output Example	Remarks
ECO	Echo back		3	"QSB"	
1	Data managed by the Module microcomputer	Display data 1 (resolution, size)	1	F	See QS1.
2		Display data 2 (generation)	1	9	See QS1.
3		Display data 3 (destination)	1	*	See QS1.
4		Display data 4 (grade)	1	*	See QS1.
5		Display data 5 (product style)	1	A	See QS1.
6		Boot version of the Module microcomputer	3	01A	See QS1.
7		Program version of the Module microcomputer (common program of the MD microcomputer)	8	001A ‘ ’ ’ ’	See QS1.
8		Boot version of the later ASIC (SQ_LSI Boot)	3	01H	See QS1.
9		Program version of the later ASIC (common program of the SQ_LSI)	8	001Y ‘ ’ ’ ’	See QS1.
10		PANEL INFO	8	G9_50F_2	See QS1.
11		Reserved	8		(All digits are padded with asterisks.)
12	Data managed by the Panel Main microcomputer	Delimiter	1	","	
13		Dummy	4	"****"	
14		Version data of the Panel Main microcomputer	3	– 01	Version of the program
			1	A	A (fixed)
			1	S	S (fixed)
			3	Space	Reserved for the version of the program
			1	Space	Reserved for the version of the boot program
			3	07A	Version of the boot program
15		Model data (Bezel color data, etc.)	1	1	1: R1 (ROM Table 1, 2: R2 (ROM Table 2), 3: R3 (ROM Table 3), E: EP (For use by engineers)
16		Firmware version data of the Displayport_Rx	16	1.10	Version of the program
17		Firmware version data of the Displayport_Rx	4	0C15	Version of hardware
18		Reserved	6		"Space"
CS	Check sum		2	(CS)	

[17] QPB (Panel Main Operation Information)

Data on operation of the display main unit can be acquired.

Command Format	Effective status	Function	Remarks
[QPB]	Every time	To acquire data on current statuses managed by the Panel Main microcomputer	Return data: 3 (ECO) + 53 (DATA) + 2 (CS) = 58 Byte

Data Arrangement		Data Length	Output Example	Remarks
ECO	Echo back	3	"QPB"	
1	Data on panel temperature	5	*****	Temperature of the panel (in Centigrade) (Tmd)
2	Delimiter	1	","	Comma
3	Unit temperature data 1	5	*****	Temperature inside the unit (in Centigrade) (T1)
4	Delimiter	1	","	Comma
5	Unit temperature data 2 (reserved)	5	*****	Temperature inside the unit (in Centigrade) (T2) (Reserved, All digits are padded with asterisks.)
6	Delimiter	1	","	Comma
7	Unit temperature data 3 (reserved)	5	*****	Temperature inside the unit (in Centigrade) (T3) (Reserved, All digits are padded with asterisks.)
8	Delimiter	1	","	Comma
9	Fan rotation speed A	1	A	Fan setting A (S: stop, L: Low, H: High, and A: Auto)
10	Fan control A/D value (A)	3	***	Fan control D/A value, A, decimal code
11	Fan rotation speed B	1	A	Fan setting B (S: stop, L: Low, H: High, and A: Auto)
12	Fan control A/D value (B)	3	***	Fan control D/A value, B, decimal code
13	Room Light Sensor level	1	5	0-7, padded with an asterisk during the sensor is off
14	Room Light Sensor A/D value	4	****	Brightness sensor A/D value, decimal code
15	Dummy 1	2	**	All digits are padded with asterisks.
16	System Operation mode of the panel	1	S	S: System Operation mode, T: Standalone Operation mode
17	Dummy 2	2	**	All digits are padded with asterisks.
18	Audio muting	1	0	0: Canceling muting, 1: Muting
19	Reserved	10	**	All digits are padded with asterisks.
CS	Check sum	2	(CS)	

[18] QAL (Shutdown information for the display main unit)

Up to the 8 latest shutdown logs of the display main unit can be acquired.

Command Format	Effective status	Function	Remarks
[QAL]	Every time	To acquire up to the 8 latest shutdown logs managed by the Panel Main microcomputer	Return data: 3 (ECO) + 96 (DATA) + 2 (CS) = 101 Byte

Data Arrangement		Data Length	Output Example	Remarks
ECO	Echo back	3	"QAL"	
1	Data on the latest shutdown	12		Reasons of the latest 8 shutdowns and hour-meter data when the shutdowns were generated (For details, see the tables below.)
2	Data on the 2nd latest shutdown	12		
3	Data on the 3rd latest shutdown	12		
4	Data on the 4th latest shutdown	12		
5	Data on the 5th latest shutdown	12		
6	Data on the 6th latest shutdown	12		
7	Data on the 7th latest shutdown	12		
8	Data on the 8th latest shutdown	12		
CS	Check sum	2	(CS)	

■ Shutdown (SD) data

Order	Content	Length (BYTE)	Value	Remarks
1	SD category data	1		SD category (For details, see the table below.) 0 for no SD
2	SD subcategory data	1		SD subcategory (For details, see the table below.)
3	HOUR METER	7		Time when a shutdown managed by the Panel Main microcomputer was generated All digits are padded with asterisks when there was no SD.
4	Dummy	3		All digits are padded with asterisks.

■ SD categories/SD subcategories

SD category (response)	Reason for SD	w/wo subcategory	SD subcategory (response)	Reason for subcategory
"0"	No SD (no abnormality)	Without subcategory	"0"	
"5"	Shutdown signal from D-Amp. Short-circuit of speaker terminal.	With subcategory	"1"	A_NG_B : L
			"2"	OTW : L
"6"	Failure in module microcomputer communication	Without subcategory	"0"	
"8"	Failure in IIC communication	With subcategory	"1"	Displayport receiver
			"2"	Failure in AUDIO PWM IC communication
"A"	FAN stop	With subcategory	"1"	FAN_A stop
			"2"	FAN_B stop
"B"	Abnormal temperature of the display unit (high)	With subcategory	"1"	High temperature at Temperature Sensor 1
			"2"	High temperature at Temperature Sensor 2
"D"	Abnormality in power of the Display MAIN Assy	With subcategory	"1"	Abnormality in 6.5V power supply.

6. SERVICE FACTORY MODE

6.1 DETAILS OF THE FACTORY MENU

The Factory menu will be displayed only when the Media Receiver is connected. For details on how to enter Factory menu, refer to “6.1 DETAILS OF THE FACTORY MENU” in the service manual for the Media Receiver.

[1] PANEL FACT.

■ Operation Items

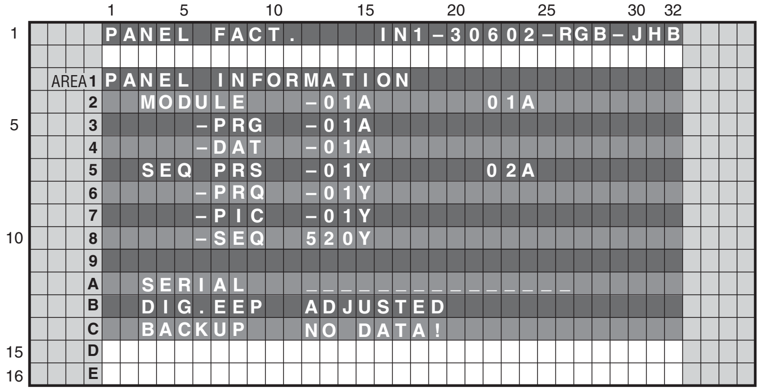
This is the menu screen for the adjustment of the panel. Data acquisition and value adjustment can be performed for the following items:

No.	Indication	Description of functions
[1-1]	PANEL INFORMATION	Data, such as the version of the microcomputer of the panel, product serial number, and statuses of EEPROM for adjustment values for the main unit and for backup, are displayed.
[1-2]	PANEL WORKS	Operation data, such as accumulated pulse-meter count, accumulated hour-meter count, accumulated power-on count, and the temperature detected by the sensor, are displayed.
[1-3]	POWER DOWN	The power-down history is displayed.
[1-4]	SHUT DOWN	The shutdown history of the panel section is displayed.
[1-5]	PANEL-1 ADJ (+)	Settings of the driving voltage and AM radio prevention can be performed.
[1-6]	PANEL-2 ADJ (+)	White balance and ABL (power consumption) for the panel can be set.
[1-7]	PANEL FUNCTION (+)	Setting of the panel-degradation correction-level and various functions are displayed.
[1-8]	ETC. (+)	Copying of backup data, clearing of various settings, and changing of settings for functions for which setting data are not stored upon last update are performed.
[1-9]	RASTER MASK SETUP (+)	The mask indication (RASTER) can be set and indicated.
[1-10]	PATTERN MASK SETUP (+)	The mask indication (PATTERN) can be set and indicated.
[1-11]	COMBI MASK SETUP (+)	The mask indication (COMBI) can be set and indicated.

■ Details of indications in each layer

[1-1] PANEL INFORMATION

- Data, such as the version of the microcomputer of the panel, product serial number, and statuses of digital EEPROM for storing the adjustment values and for backup EEPROM, are displayed. No other layers are nested below this layer, and there are no adjustment items.



```
      PANEL FACT.      IN1-30602-RGB-JHB

AREA1 PANEL  INFORMATION
2       MODULE     -01A         01A
3            -PRG  -01A
4            -DAT  -01A
5       SEQ  PRS   -01Y         02A
6            -PRQ  -01Y
7            -PIC  -01Y
8            -SEQ  520Y
9
A       SERIAL     _______________
B       DIG.EEP    ADJUSTED
C       BACKUP     NO DATA!
D
E
```

■ Key operation

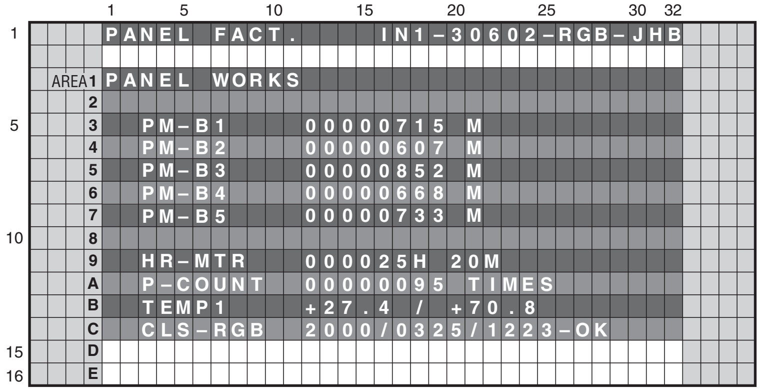
<DOWN> : Shifting to PANEL WORKS
<UP> : Shifting to COMBI MASK SETUP (+)
<L/R> : Updating displayed information

■ Contents of the Display item

MODULE : The version of data written in the Module microcomputer is indicated.
-PRG : The program version of the Module microcomputer is indicated.
-DAT : The data version of the Module microcomputer is indicated.
SEQ PRS : The version of data written in the Sequence LSI is indicated.
-PRG : The program version of the Sequence LSI is indicated.
-PIC : The Picture-data version of the Sequence LSI is indicated.
-SEQ : The sequence-data version of the Sequence LSI is indicated.
SERIAL : The serial number of the module is indicated.
DIG.EEP : The adjusted status of the EEPROM that is mounted on the DIGITAL Assy is indicated.
BACKUP : The adjusted status of the EEPROM for backup that is mounted on the SENSOR Assy is indicated.

[1-2] PANEL WORKS

- Data on operations, such as the accumulated pulse-meter counts, hour-meter count, power-on count, and temperature detected by the sensor, are displayed. No other layers are nested below this layer, and there are no adjustment items.



```
      PANEL FACT.      IN1-30602-RGB-JHB

AREA1 PANEL  WORKS
2
3       PM-B1      00000715  M
4       PM-B2      00000607  M
5       PM-B3      00000852  M
6       PM-B4      00000668  M
7       PM-B5      00000733  M
8
9       HR-MTR     000025H  20M
A       P-COUNT    00000095  TIMES
B       TEMP1      +27.4  /  +70.8
C       CLS-RGB    2000/0325/1223-OK
D
E
```

Temperature unit is " °C (Centigrade) ".

■ Key operation

<DOWN> : Shifting to POWER DOWN
<UP> : Shifting to PANEL INFORMATION
<L/R> : Updating displayed information

■ Contents of the Display item

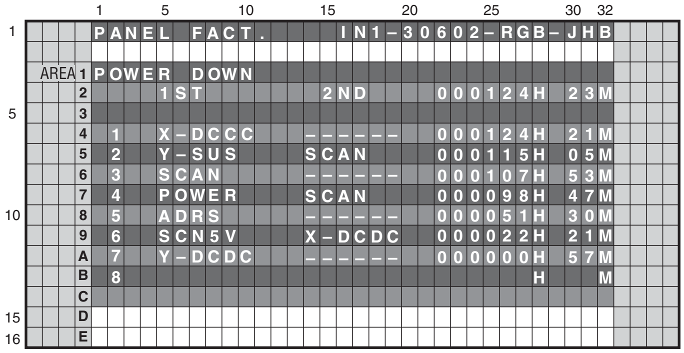
- PM-B1 to B5: The accumulated pulse-meter counts for the 5 blocks on the screen are indicated. (the lowest-order digit represents millions of pulses.)
- HR-MTR: The hour-meter value (accumulated power-on hours) is indicated.
- P-COUNT: The accumulated power-on count is indicated.
- TEMP1: The current panel temperature and the historical maximum temperature recorded in memory are indicated. The temperature unit is " °C (Centigrade) ".
- CLS-RGB: Data obtained from the color sensor are displayed in the order R, G, and B, with the status indication at the end.

CLS Status	OSD Indication
Function OFF	-OFF
Color sensor module non connection	-NC
Data abnormality	-INV
Data normal	-OK

Note:
Neither the color sensor value nor the status indication will be displayed if the color sensor function is set to ON in the ETC (+) layer beforehand.

[1-3] POWER DOWN

- The power-down history is displayed. No other layers are nested below this layer.



```
PANEL FACT.    IN1-30602-RGB-JHB

POWER DOWN
    1ST       2ND    000124H 23M

 1  X-DCCC    ------ 000124H 21M
 2  Y-SUS     SCAN   000115H 05M
 3  SCAN      ------ 000107H 53M
 4  POWER     SCAN   000098H 47M
 5  ADRS      ------ 000051H 30M
 6  SCN5V     X-DCDC 000022H 21M
 7  Y-DCDC    ------ 000000H 57M
 8                         H   M
```

■ Key operation

<DOWN>	: Shifting to SHUT DOWN
<UP>	: Shifting to PANEL WORKS
<L/R>	: Updating displayed information

■ Contents of the Display item

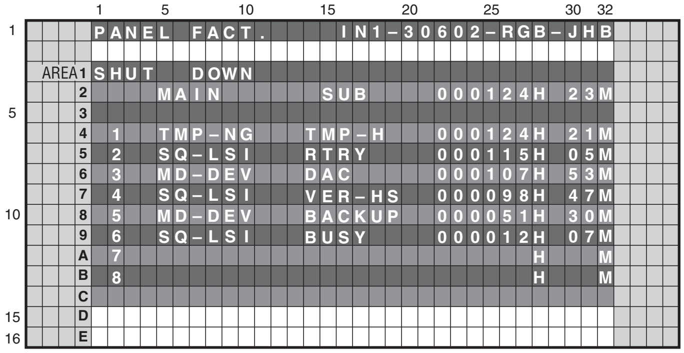
- The last most 8 power-down histories are displayed with the hour-meter values that indicate the hours when power-downs occurred.
- When power-down is confirmed, the factor is displayed as "1st", "2nd", according to the accuracy order.
- The power-down history is not recorded when the power-down occurred at the same place and same time.

<Causes of power-down and corresponding OSD indications>

Cause of power-down	OSD Indication	Cause of power-down	OSD Indication
POWER SUPPLY Unit	P-PWR	ADDRESS Assy	ADRS
SCAN Assy	SCAN	DC/DC converter for X drive	X-DCDC
5 V power for SCAN	SCN5V	X-SUS	X-SUS
DC/DC converter for Y drive	Y-DCDC	DIG-DCDC	D-DCDC
Y-SUS	Y-SUS	Unknown	UNKNOW

[1-4] SHUT DOWN

- The shutdown history of panel section is displayed. No other layers are nested below this layer, and there are no adjustment items.



```
PANEL FACT.      IN1-30602-RGB-JHB

SHUT   DOWN
      MAIN         SUB      000124H  23M

 1    TMP-NG      TMP-H     000124H  21M
 2    SQ-LSI      RTRY      000115H  05M
 3    MD-DEV      DAC       000107H  53M
 4    SQ-LSI      VER-HS    000098H  47M
 5    MD-DEV      BACKUP    000051H  30M
 6    SQ-LSI      BUSY      000012H  07M
 7                                H    M
 8                                H    M
```

Key operation

<DOWN>	: Shifting to PANEL-1 ADJ (+)
<UP>	: Shifting to POWER DOWN
<L/R>	: Updating displayed information

Contents of the Display item

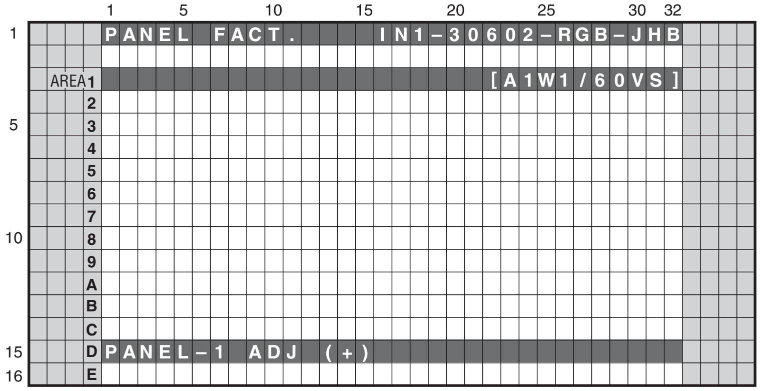
- The shutdown history is displayed. The last most 8 shutdown histories are displayed with the hour-meter values that indicate the hours when shutdowns occurred.
- When there is detail information when shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded when the shutdown occurred at the same place and same time.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	**OSD Indication**	**Sub cause**	**OSD Indication**
SQ_LSI	SQ_LSI	Communication Error	RTRY
		Drive Stop	SQNO
		Busy	BUSY
		Version mismatching (H/S)	VER-HS
		Version mismatching (H/M)	VER-HM
		Version mismatching (H/I)	VER-HI
MDU-DEVICE	MD-DEV	Digital EEPROM	EEPROM
		Backup EEPROM	BACKUP
		DAC IC	DAC
Abnormally in RST2 power supply	RST2	–	–
Abnormally in panel temperature	TMP-NG	High temperature of the panel	TMP-H
		Low temperature of the panel	TMP-L

[1-5] PANEL-1 ADJ (+)

This is a page for settings for the driving voltage and AM radio countermeasures. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.
On third line of the screen, the white balance, ABL table, and drive sequence in the current status are displayed.
(Items that have lower layers are the same.)

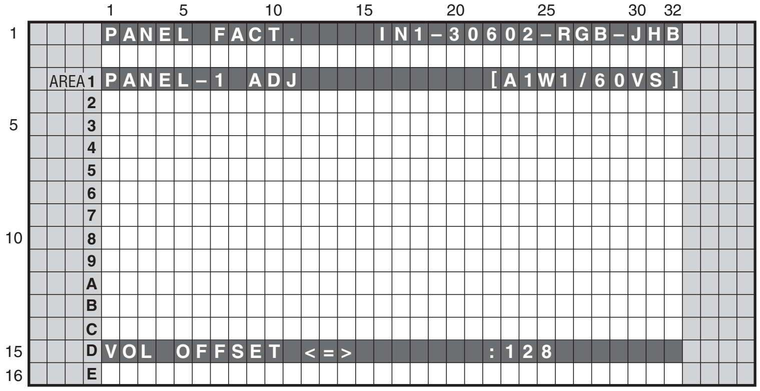

PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

PANEL-1 ADJ (+)

■ Key operation

<DOWN> : Shifting to PANEL-2 ADJ (+)
<UP> : Shifting to POWER DOWN
<SET> : Shifting to the next nested layer


PANEL FACT. IN1-30602-RGB-JHB

PANEL-1 ADJ [A1W1/60VS]

VOL OFFSET <=> :128

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

When entered to this layer, panel white balance and the gamma setting become the default temporarily for setting that is necessary for voltage adjustment. Turn off the noise option function.

<Next nested layer of PANEL-1 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C Command	Remarks
1	Vsus voltage	VOL SUS <=>	000 to 255	Factory adjustment value	VSU	
2	Vysnofs voltage	VOL OFFSET <=>			VOF	
3	Vyprst voltage	VOL RST P <=>			VRP	
4	Vxpofs1 voltage	VOL XPOFS1 <=>			VX1	
5	Vxpofs2 voltage	VOL XPOFS2 <=>			VX2	
6	Vyknofs1,2 voltage	VOL YKNOFS1 D <=>			V1F	
7	Vyknofs3 voltage	VOL YKNOFS3 D <=>			V3F	
8	Vyknofs4 voltage	VOL YKNOFS4 D<=>			V4F	
9	Δ Vyknofs1,2/3/4	VOL YKNOFSA D<=>			VYF	
10	First reset (wedge width)	RESET1ST_KSB <=>	112 to 144	128	R1K	Factory use item
11	Second reset (wedge width)	RESET2ND_KSB <=>			R2K	
12	1SF - Y sus tail (wedge width)	YSTL_1SF_KSB <=>			Y1K	
13	1SF - Y sus tail (resonance down width)	YSTL_1SF_HZ <=>			Y1Z	
14	3SF and later - first X sus (resonance up width)	XSUS_1ST_B <=>			X1B	
15	2SF - second Y sus (resonance up width)	YSUS_2ND_B <=>			Y2B	
16	2SF - third X sus (resonance up width)	XSUS_3RD_B <=>			X3B	
17	2SF - repeat Y sus (resonance up width)	YSUS_B <=>			YSB	
18	2SF - repeat X sus (resonance up width)	XSUS_B <=>			XSB	
19	3SF and later - Y sus tail (wedge width)	YSTL_KSB <=>			YTK	
20	3SF and later - Y sus tail (resonance down width)	YSTL_HZ <=>			YTZ	
21	2SF - Y sus tail (wedge width)	YSTL_2SF_KSB <=>			Y2K	
22	2SF - Y sus tail (resonance down width)	YSTL_2SF_HZ <=>			Y2Z	
23	3SF and later (2 pulses of SSF) - Y sus tail (wedge width)	YSTL_FMR_KSB <=>			YNK	
24	Timing between Scan and Address	SCAN ADRS ADJ <=>			SAT	
25	SUS frequency (AM radio anti-jamming)	SUS FREQ <=>	MODE1 to 8	MODE1	SFR	Note

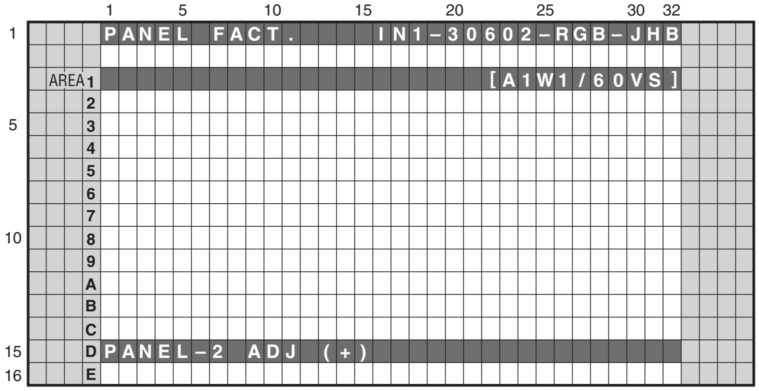
Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

A

[1-6] PANEL-2 ADJ (+)

- White balance of the panel can be adjusted. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.

B

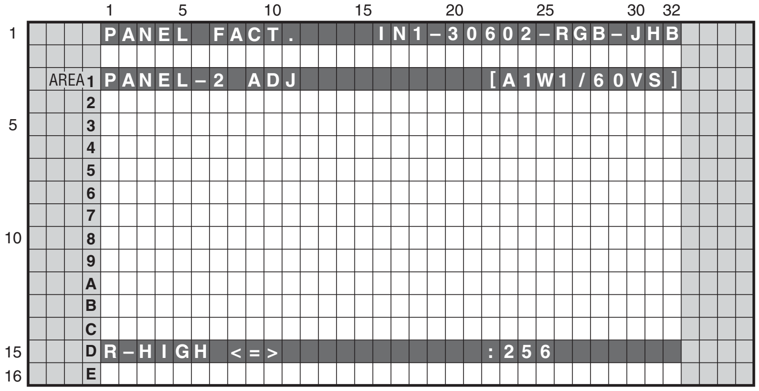


```
PANEL FACT.        IN1–30602–RGB–JHB

AREA 1                     [A1W1/60VS]
D PANEL–2 ADJ (+)
```

■ Key operation

<DOWN> : Shifting to PANEL FUNCTION (+)
<UP> : Shifting to PANEL-1 ADJ (+)
<SET> : Shifting to the next nested layer

C



```
PANEL FACT.        IN1–30602–RGB–JHB

AREA 1 PANEL–2 ADJ         [A1W1/60VS]
D R–HIGH <=>               :256
```

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/ setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<VOL+> : Adding by 10 to the adjustment/ setting value
<VOL-> : Subtracting by 10 from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

D

<Next nested layer of PANEL-2 ADJ (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	Panel WB R highlight	R-HIGH <=>	000 to 999	Factory adjustment value	PRH	
2	Panel WB G highlight	G-HIGH <=>			PGH	
3	Panel WB B highlight	B-HIGH <=>			PBH	
4	Panel WB R lowlight	R-LOW <=>	000 to 999		PRL	
5	Panel WB G lowlight	G-LOW <=>			PGL	
6	Panel WB B lowlight	B-LOW <=>			PBL	
7	ABL	ABL <=>	000 to 255		ABL	

E

The ABL/WB adjustment values are grouped into three tables with ABL and four tables with WB, depending on the drive sequences. The adjustment value for the actually driven table is displayed. The number of the adjustment table and the drive sequence currently selected are displayed on the right side of the third line as the On-Screen display.

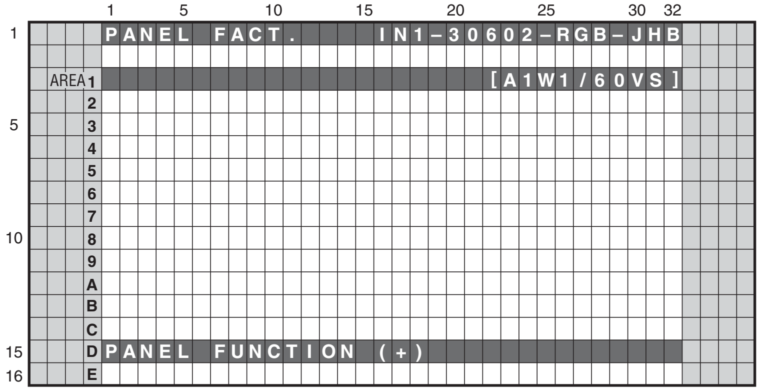
<ABL/WB adjustment table and Drive sequence>

ABL Table	WB Table	OSD Indication	Drive Sequence	OSD Indication	Remarks
TABLE 1	TABLE 1	A1W1	VIDEO-60Hz	60VS	
			PC-60Hz	60PS	
TABLE 2	TABLE 2	A2W2	VIDEO-48Hz	48VS	
			VIDEO-50Hz	50VS	
TABLE 3	TABLE 3	A3W3	VIDEO-72Hz	72VS	
			VIDEO-75Hz-1	75V1	
	TABLE 4	A3W4	VIDEO-75Hz-2	75V2	Correspond to MASK indication only

F

[1-7] PANEL FUNCTION (+)

- A level setting for panel degradation correction can be made. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



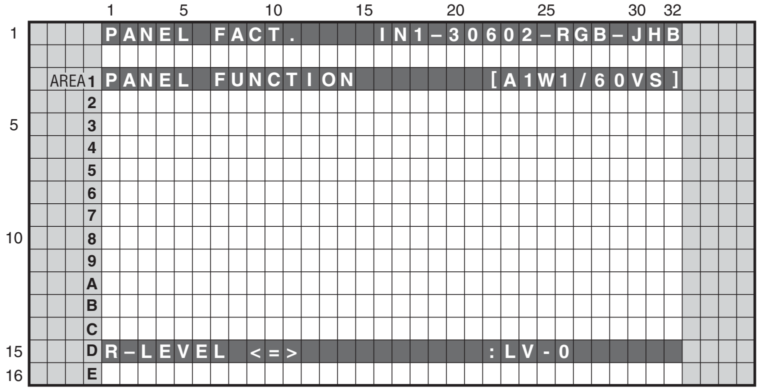
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

PANEL FUNCTION (+)

■ Key operation

<DOWN> : Shifting to ETC.(+)
<UP> : Shifting to PANEL-2 ADJ (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

PANEL FUNCTION [A1W1/60VS]

R-LEVEL <=> :LV-0

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

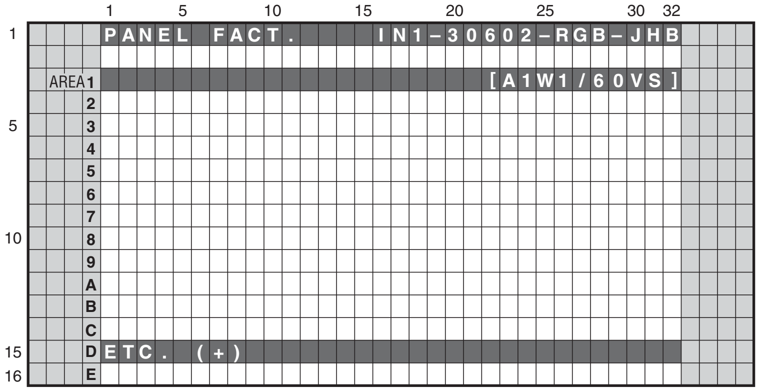
<Next nested layer of PANEL FUNCTION (+)>

No.	Item	OSD Indication	Variable Range	Setting Value	RS-232C COMMAND	Remarks
1	R deterioration correction LEVEL	R-LEVEL <=>	Lv-10 to 7	Lv-3	RRL	Factory use item (Note)
2	G deterioration correction LEVEL	G-LEVEL <=>		Lv-2	RGL	
3	B deterioration correction LEVEL	B-LEVEL <=>		Lv-0	RBL	
4	L1 address	ADDRESS L1 <=>	PH0 to 9	PH2	AP0	
5	L2 address	ADDRESS L2 <=>		PH2	AP0	
6	L3 address	ADDRESS L3 <=>		PH3	AP1	
7	L4 address	ADDRESS L4 <=>		PH1	AP1	
8	U1 address	ADDRESS U1 <=>		PH2	AP2	
9	U2 address	ADDRESS U2 <=>		PH2	AP2	
10	U3 address	ADDRESS U3 <=>		PH3	AP3	
11	U4 address	ADDRESS U4 <=>		PH1	AP3	
12	Streaking correction	STK MODE <=>	OFF to MODE1 to 8	MODE1	SKM	
13	Black display mode	FULL BLACK <=>	OFF to MODE1	MODE1	FBM	
14	Panel Rx characteristic	PANEL RX <=>	000 to 999	Factory adjustment value	PRX	Factory use item
15	Panel Ry characteristic	PANEL RY <=>	000 to 999		PRY	
16	Panel Gx characteristic	PANEL GX <=>	000 to 999		PGX	
17	Panel Gy characteristic	PANEL GY <=>	000 to 999		PGY	
18	Panel Bx characteristic	PANEL BX <=>	000 to 999		PBX	
19	Panel By characteristic	PANEL BY <=>	000 to 999		PBY	
20	Color sensor R coefficient	CLS R <=>	000 to 255	128	CSR	
21	Color sensor G coefficient	CLS G <=>	000 to 255	128	CSG	
22	Color sensor B coefficient	CLS B <=>	000 to 255	128	CSB	

Note: It is necessary to turn OFF and ON the power for reflecting the setting change.

[1-8] ETC. (+)

- Clearance of various log data for the panel and changing of settings for which setting data were not stored upon last update can be performed.
  Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



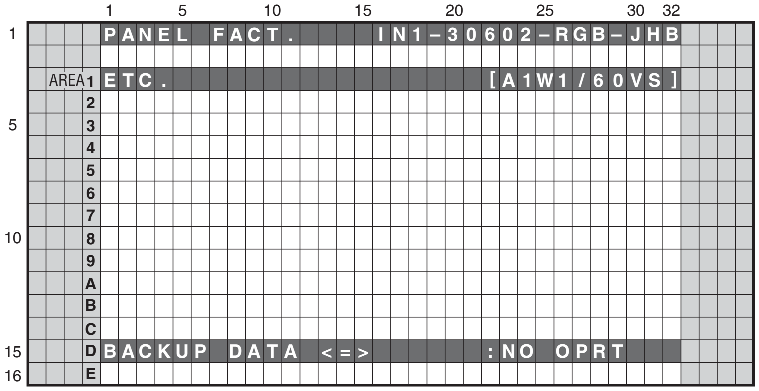
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

ETC. (+)

■ Key operation

<DOWN> : Shifting to RASTER MASK SETUP (+)
<UP> : Shifting to PANEL FUNCTION (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

ETC. [A1W1/60VS]

BACKUP DATA <=> :NO OPRT

■ Key operation

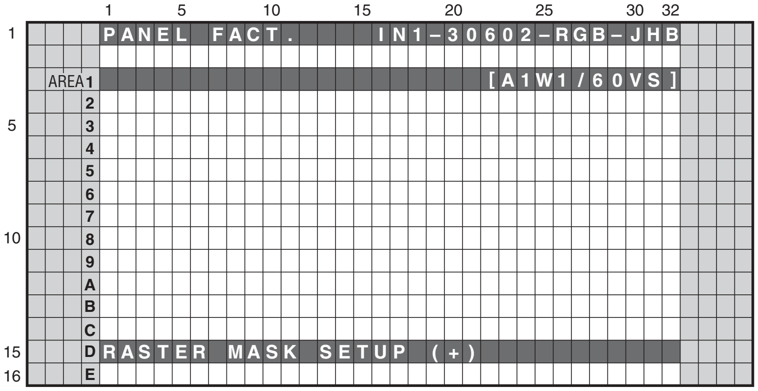
<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Adding by one to the adjustment/setting value
<LEFT> : Subtracting by one from the adjustment/setting value
<SET> : Determining the adjustment/setting value and shifting to the upper layer

<Next nested layer of ETC (+)>

No.	Item	OSD Indication	Processing Contents	RS-232C COMMAND	Remarks
1	Backup EEPROM data	BACKUP DATA <=>	• NO OPRT (No operation) • TRANSFER (Backup data transmission)	BCP	
2	Digital EEPROM data	DIGITAL EEPROM <=>	• NO OPRT (No operation) • REPAIR (Adjustment is complete) • DELETE (Adjustment is not complete)	FAJ/UAJ	
3	PD history	PD INFO. <=>	• NO OPRT (No operation) • CLEAR (Data clear)	CPD	
4	SD history	SD INFO. <=>		CSD	
5	HOUR METER	HR-MTR INFO. <=>		CHM	
6	Pulse meter	PM/B1-B5 <=>		CPM	
7	PON counter	P COUNT INFO. <=>		CPC	
8	Maximum temperature	MAX TEMP. <=>		CMT	
9	Mirror reversing display	MIRROR <=>	• Mirror reversing display OFF • MODE1 (Right and left reversing) • MODE2 (Top and bottom reversing) • MODE3 (Right and left, Top and bottom reversing)	MIR	The indication on the menu is also highlighted. The setting is canceled upon power-off.
10	Color sensor mode	CLS <=>	• Color sensor operation OFF • Color sensor operation ON	CSF	

[1-9] RASTER MASK SETUP (+)

- This menu set the RASTER MASK and the drive sequence at RASTER MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



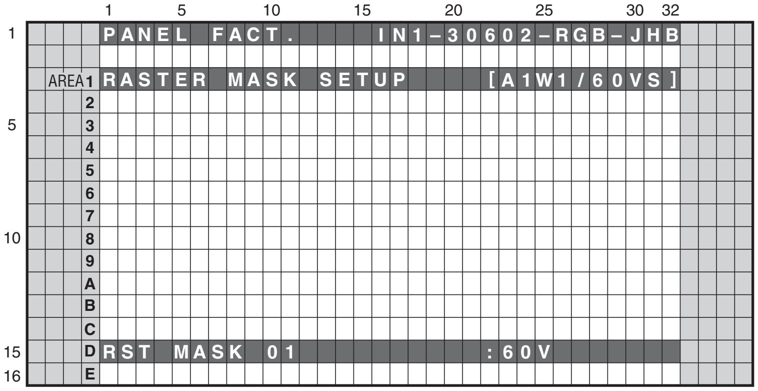
PANEL FACT. IN1-30602-RGB-JHB

[A1W1/60VS]

RASTER MASK SETUP (+)

■ Key operation

<DOWN> : Shifting to PATTERN MASK SETUP (+)
<UP> : Shifting to ETC. (+)
<SET> : Shifting to the next nested layer



PANEL FACT. IN1-30602-RGB-JHB

RASTER MASK SETUP [A1W1/60VS]

RST MASK 01 :60V

■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

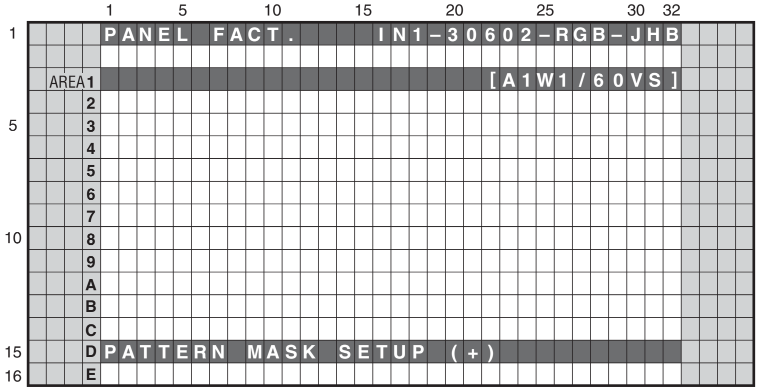
- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of RASTER MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKR/VFQ	
2	Display raster mask 01	RST MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
26	Display raster mask 25	RST MASK 25 <=>			

[1-10] PATTERN MASK SETUP (+)

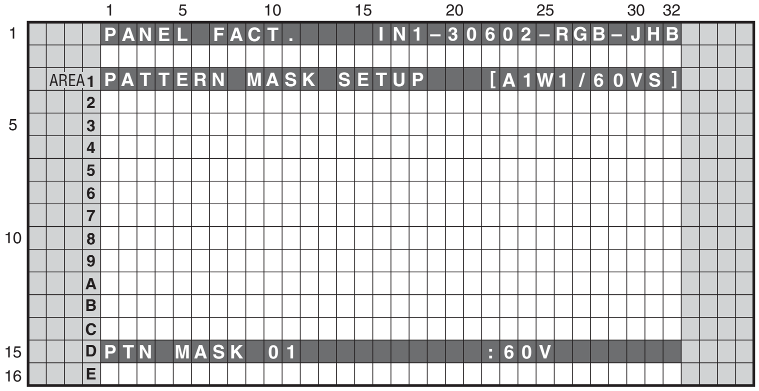
- This menu set the PATTERN MASK and the drive sequence at PATTERN MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



```
PANEL FACT.      IN1-30602-RGB-JHB
                       [A1W1/60VS]
PATTERN MASK SETUP (+)
```

■ Key operation

<DOWN> : Shifting to COMBI MASK SETUP (+)
<UP> : Shifting to RASTER MASK SETUP (+)
<SET> : Shifting to the next nested layer



```
PANEL FACT.      IN1-30602-RGB-JHB
PATTERN MASK SETUP     [A1W1/60VS]
PTN MASK 01            :60V
```

■ Key operation

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

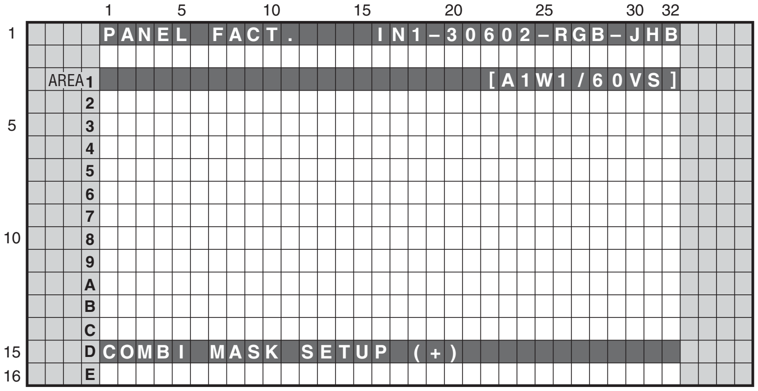
- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of PATTERN MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKS/VFQ	
2	Display raster mask 01	PTN MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
50	Display raster mask 49	PTN MASK 49 <=>			

[1-11] COMBI MASK SETUP (+)

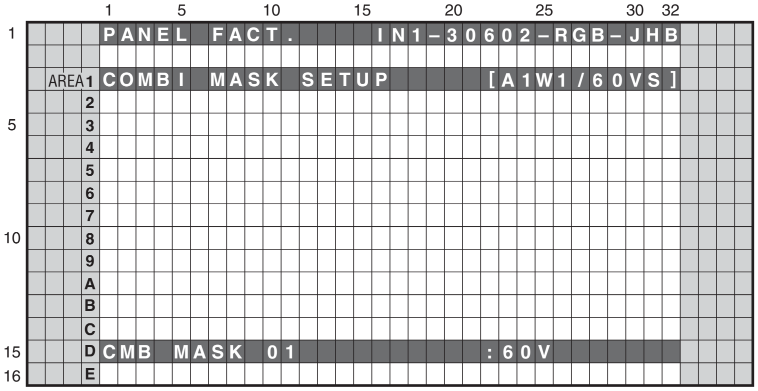
- This menu set the COMBI MASK and the drive sequence at COMBI MASK state. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



```
PANEL FACT.    IN1-30602-RGB-JHB
AREA 1                [A1W1/60VS]
D COMBI MASK SETUP (+)
```

■ **Key operation**

<DOWN> : Shifting to PANEL INFORMATION
<UP> : Shifting to PATTERN MASK SETUP (+)
<SET> : Shifting to the next nested layer



```
PANEL FACT.    IN1-30602-RGB-JHB
AREA 1 COMBI MASK SETUP [A1W1/60VS]
D CMB MASK 01          :60V
```

■ **Key operation**

<DOWN> : Shifting to the next MASK
<UP> : Shifting to the previous MASK
<RIGHT> : Changing MASK sequence (+)
<LEFT> : Changing MASK sequence (-)
<SET> : Determining the adjustment/setting value and shifting to the upper layer

- The changed sequence and the ABL/WB table are retained until the mask is turned off.

<Next nested layer of COMBI MASK SETUP (+)>

No.	Item	OSD Indication	MASK Display Sequence	RS-232C COMMAND	Remarks
1	Mask off	MASK OFF		MKC/VFQ	
2	Display raster mask 01	CMB MASK 01 <=>	<=>50V<=>60V<=>60P<=> 72V<=>75V1<=>75V2<=>		
...		...			
18	Display raster mask 17	CMB MASK 17 <=>			

[2] PANEL MAIN FACT.

■ Operation Items in the PANEL MAIN FACT. Menu

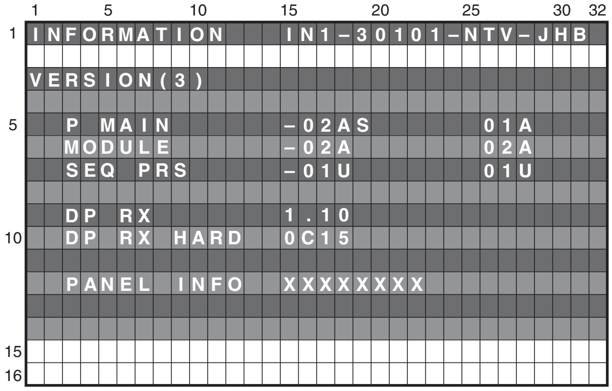
On the PANEL MAIN FACT. menu screen, acquisition of information on and settings for the display main unit can be performed, as shown in the table below:

No.	Indication	Description of functions
[2-1]	VERSION (3)	To indicate the versions of the microcomputers for the display (incl. those for the display main unit)
[2-2]	PM NG INFO.	To indicate the shutdown history of the display main unit
[2-3]	PM STATE INFO.	To indicate temperatures of the display main unit, state of the fans, brightness, and model information
[2-4]	DP_RX INFO.	Data on the DP receiver
[2-5]	PM_SETUP (+)	To clear the history and perform function settings whose data are not retained after the unit is turned off
[2-6]	PM_BEZEL_SETUP	To perform the bezel setup
[2-7]	PM_NG_CLEAR	To clear the shutdown history

■ Description of Indications on Each Layer

[2-1] VERSION (3)

The versions of the microcomputers for the display (incl. those for the display main unit) are indicated on the VERSION (3) screen. No other layers are nested below this layer, and there are no adjustment items.
Although the description on the VERSION (3) screen is included in the PANEL MAIN FACT. section, this screen actually belongs to the INFORMATION layer.



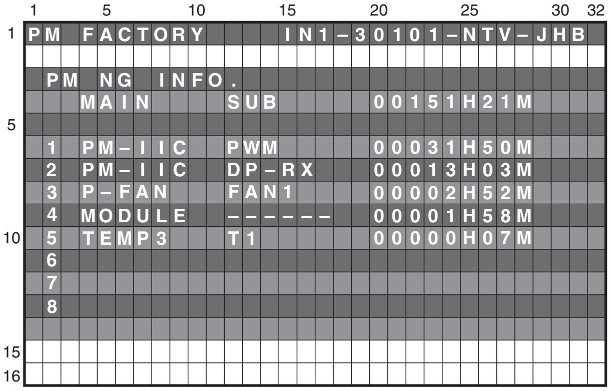
```
INFORMATION   IN1-30101-NTV-JHB

VERSION(3)

  P MAIN      -02AS      01A
  MODULE      -02A       02A
  SEQ PRS     -01U       01U

  DP RX       1.10
  DP RX HARD  0C15

  PANEL INFO  XXXXXXXX
```

■ Contents of the Display item

- P MAIN: Version of the writing data for the Panel Main microcomputer
- MODULE: Version of the writing data for the Module microcomputer
- SEQ PRS: Version of the writing data for the sequence LSI
- DP RX: Version of the writing data for the DP receiver firmware
- DP RX HARD: Version of the hardware for the DP receiver
- PANEL INFO: Information on the display panel

[2-2] PANEL MAIN NG INFORMATION

The shutdown history of the display main unit is indicated on the PM NG INFO. screen.
No other layers are nested below this layer.



```
PM FACTORY    IN1-30101-NTV-JHB

 PM NG INFO.
   MAIN    SUB     00151H21M

 1 PM-IIC  PWM     00031H50M
 2 PM-IIC  DP-RX   00013H03M
 3 P-FAN   FAN1    00002H52M
 4 MODULE  ------  00001H58M
 5 TEMP3   T1      00000H07M
 6
 7
 8
```

■ Key operation

<DOWN>	: Shifting to PM STATE INFO.
<L/R>	: Updating displayed information

■ Contents of the Display item

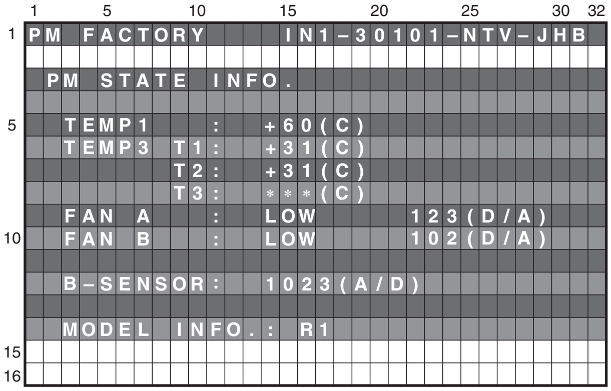
- The last 8 shutdown logs for the display are displayed with the latest log at the top and with hour-meter values that indicate when shutdowns occurred.
- If there was detailed information when a shutdown occurred, the possible defective part is displayed as Sub information.
- The shutdown history is not recorded if the shutdown was initiated for the same reason and at the same time as the previous shutdown.

<Cause of shutdown and corresponding OSD Indication >

Cause of shutdown (MAIN)		Cause of shutdown (SUB)	
Main cause	**OSD Indication**	**Sub cause**	**OSD Indication**
D-Amp/Short-circuiting of the speakers	AUDIO	A_NG	AUDIO
		OTW	OTW
Module microcomputer	MODULE	–	–––––
IIC communication of the Panel Main microcomputer	PM-IIC	DP_Rx	DP_Rx
		PWM_Processor	PWM
Abnormality in the fans	P-FAN	FAN_NG_A="H"	FAN1
		FAN_NG_B="H"	FAN2
High temperature of the display unit	TEMP3	High temperature at Temperature Sensor 1	T1
		High temperature at Temperature Sensor 2	T2
Power supply of the POWER SUPPLY Unit	MB-POW	VCC power decreaseof the MAIN Assy	RELAY

[2-3] PANEL MAIN STATE INFORMATION

The display (unit) temperatures detected by the temperature sensors, FAN rotating status, the value acquired by the Room Light Sensor, and settings for the model are indicated.
No other layers are nested below this layer.



```
PM FACTORY    IN1-30101-NTV-JHB

 PM STATE INFO.

  TEMP1     :  +60(C)
  TEMP3 T1:  +31(C)
        T2:  +31(C)
        T3:  ***(C)
  FAN A     :  LOW     123(D/A)
  FAN B     :  LOW     102(D/A)

  B-SENSOR:  1023(A/D)

  MODEL  INFO.: R1
```

■ Key operation

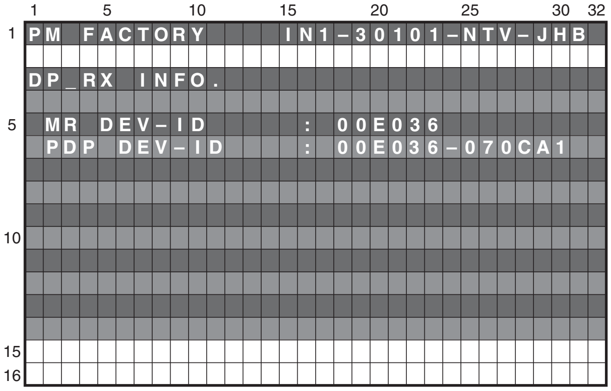
<DOWN> : Shifting to DP_RX INFO.
<UP> : Shifting to PM NG INFO.
<L/R> : Updating displayed information

■ Contents of the Display item

- TEMP1: The current display (panel) temperature is indicated. Temperature is in °C (Centigrade).
- TEMP3, T1-T2, T3 (reserved): The current display (unit) temperature is indicated. Temperature is in °C (Centigrade).
- FAN A, B: Controlled state of the fans (HIGH, LOW, STOP), D/A value
- B-SENSOR: A/D value of the Room Light Sensor
- MODEL INFO.: Model information, such as setup status of the bezel

[2-4] DP-RX INFORMATION

This screen is for use by engineers.
No other layers are nested below this layer.



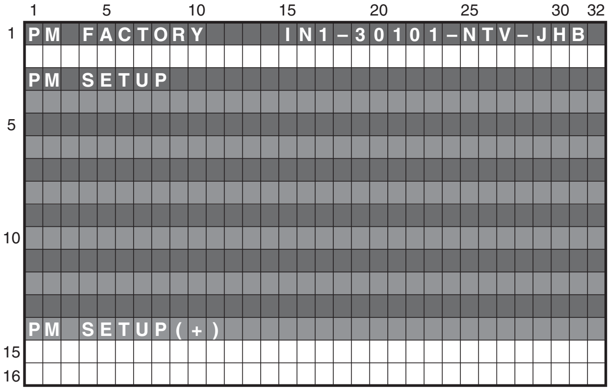
```
PM FACTORY    IN1-30101-NTV-JHB

DP_RX INFO.

 MR DEV-ID       :  00E036
 PDP DEV-ID      :  00E036-070CA1
```

■ Key operation

<DOWN> : Shifting to PM_SETUP (+).
<UP> : Shifting to PM STATE INFO.
<L/R> : Updating displayed information

[2-5] PANEL MAIN SETUP (+)

The shutdown logs can be cleared, and temporary settings for functions that you do not wish to retain after the unit is turned off can be performed. Pressing the ENTER/SET key shifts the screen to the next nested layer below for item selection.



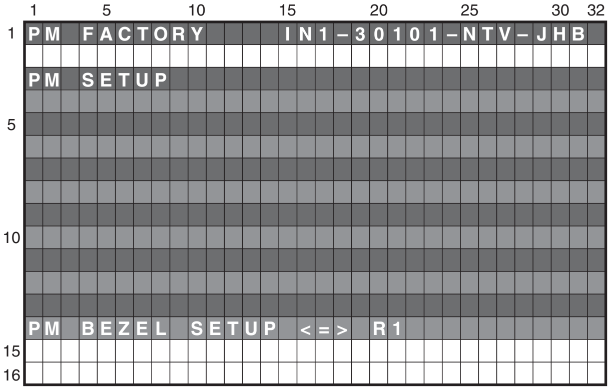
PM FACTORY IN1–30101–NTV–JHB

PM SETUP

PM SETUP(+)

■ Key operation

<UP> : Shifting to DP_RX INFO.
<ENTER/SET> : Shifting to the next nested layer



PM FACTORY IN1–30101–NTV–JHB

PM SETUP

PM BEZEL SETUP <=> R1

■ Key operation

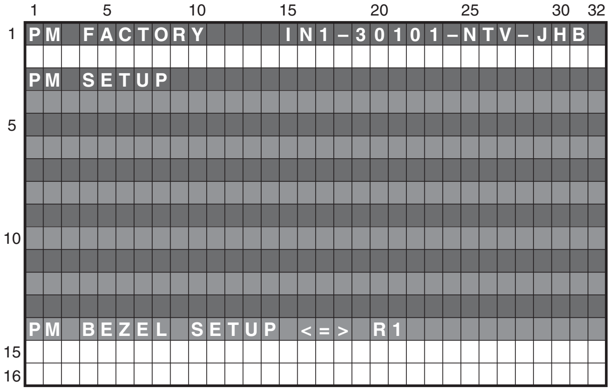
<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Changing the setting value upward (+)
<LEFT> : Changing the setting value upward (-)
<ENTER/SET> : Determining the changed value and return to the layer above

<Next nested layer of PANEL MAIN SETUP (+)>

No.	Item	OSD Indication	Content	RS-232C COMMAND	Remarks
1	Bezel setting	PM_BEZEL_SETUP <=>	• NO OPRT (No operation) • R1 (Bezel setting 1) Black • R2 (Bezel setting 2) White • R3 (Bezel setting 3) Beige • EP (For use by engineers)	BZS	
2	SD history clear (panel main)	PM NG CLEAR <=>	• NO OPRT (No operation) • CLEAR (Clearance of data)	CAL	

[2-6] PANEL MAIN BEZEL SETUP

Setup of the bezel can be performed on the PANEL MAIN BEZEL SETUP screen.



```
PM FACTORY      IN1-30101-NTV-JHB

PM SETUP

PM BEZEL SETUP <=> R1
```

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Changing the setting value upward (+)
<LEFT> : Changing the setting value upward (-)
<ENTER/SET> : Determining the changed value and return to the layer above

Select the bezel setup setting, using the L or R key, then press the SET key to determine the setting.
When NO OPT is selected, bezel setup is not performed.

Each time the L or R key is pressed, setup settings are changed, as shown below:

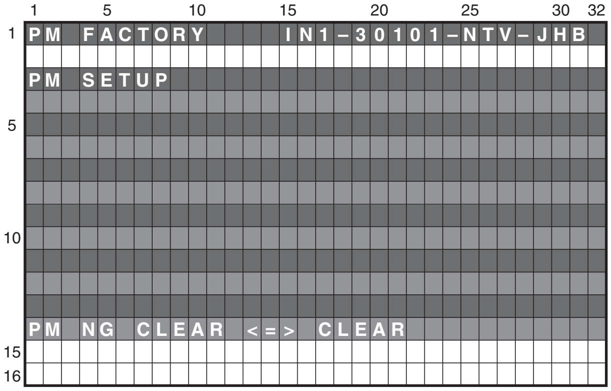
→R1 ↔ R2 ↔ R3 ↔ EP ↔ NO OPT ←

"NO OPT" is selected immediately after the PANEL MAIN BEZEL SETUP screen is displayed.

R1: The bezel setup is performed according to ROM table 01. (Default)
R2: The bezel setup is performed according to ROM table 02.
R3: The bezel setup is performed according to ROM table 03.
EP: The bezel setup is performed according to the EEPROM table. (For use by engineers)
NO OPT: Bezel setup is not performed.

[2-7] PANEL MAIN NG CLEAR

The shutdown logs can be cleared on the PM NG CLEAR screen.



```
PM FACTORY      IN1-30101-NTV-JHB

PM SETUP

PM NG CLEAR <=> CLEAR
```

■ Key operation

<DOWN> : Shifting to the next item
<UP> : Shifting to the previous item
<RIGHT> : Changing the setting value upward (+)
<LEFT> : Changing the setting value upward (-)
<ENTER/SET> : Determining the changed value and return to the layer above

"NG CLEAR" denotes clearing of the SD logs managed by the Panel Main microcomputer.

Select the setting, using the L or R key, then press the ENTER/SET key to clear the data.
When NO OPT is selected, NG CLEAR is not performed.

Pressing the L or R key toggles between CLEAR and NO OPT, as shown below:

CLEAR ↔ NO OPT

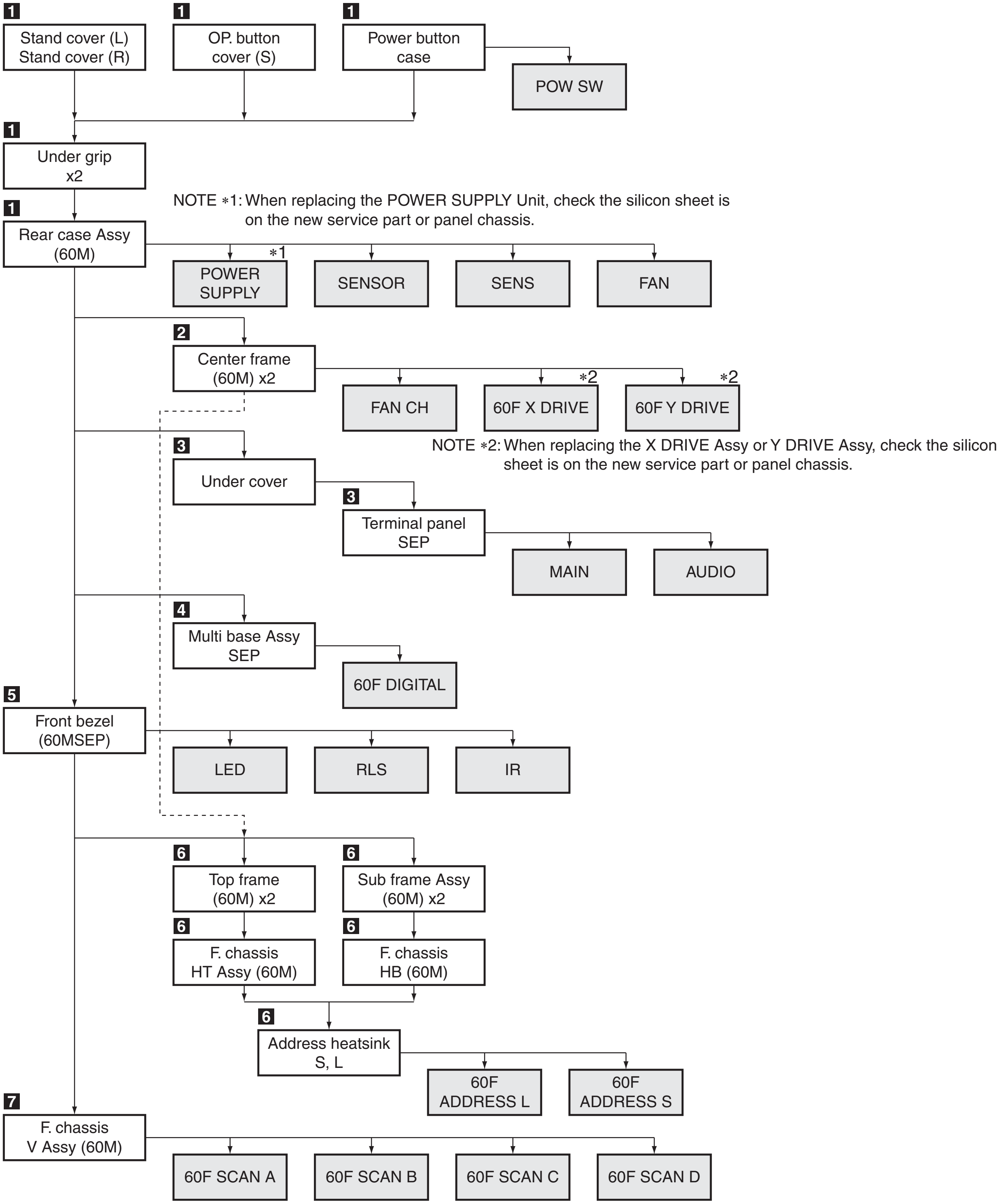
7. DISASSEMBLY

7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:


1 Stand cover (L) Stand cover (R)
1 OP. button cover (S)
1 Power button case
POW SW
1 Under grip x2
1 Rear case Assy (60M)
POWER SUPPLY *1
SENSOR
SENS
FAN
2 Center frame (60M) x2
FAN CH
60F X DRIVE *2
60F Y DRIVE *2
3 Under cover
3 Terminal panel SEP
MAIN
AUDIO
4 Multi base Assy SEP
60F DIGITAL
5 Front bezel (60MSEP)
LED
RLS
IR
6 Top frame (60M) x2
6 Sub frame Assy (60M) x2
6 F. chassis HT Assy (60M)
6 F. chassis HB (60M)
6 Address heatsink S, L
60F ADDRESS L
60F ADDRESS S
7 F. chassis V Assy (60M)
60F SCAN A
60F SCAN B
60F SCAN C
60F SCAN D

NOTE *1: When replacing the POWER SUPPLY Unit, check the silicon sheet is on the new service part or panel chassis.

NOTE *2: When replacing the X DRIVE Assy or Y DRIVE Assy, check the silicon sheet is on the new service part or panel chassis.

7.2 DISASSEMBLY

Disassembly

1 Rear Case Assy (60M)

● Stand cover (L) and (R)

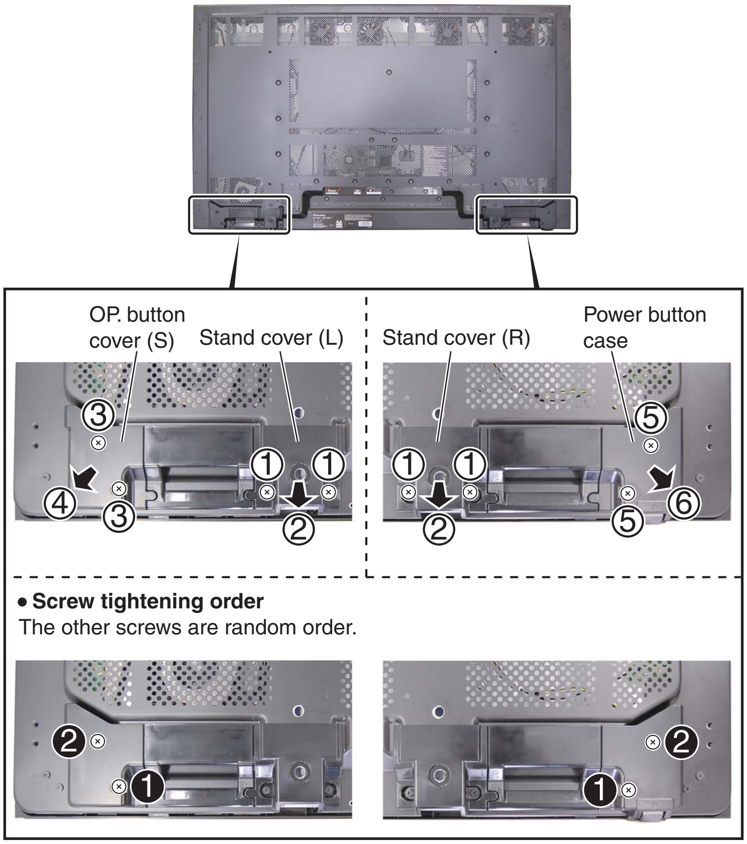
① Remove the four N grip screws. (ABA1381)
② Remove the stand covers (L) and (R).

● OP. button cover (S)

③ Remove the two screws. (ABA1379)
④ Remove the OP. button cover (S).

● Power button case

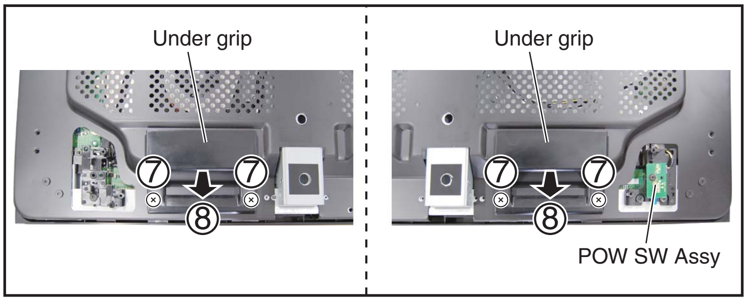
⑤ Remove the two screws. (ABA1379)
⑥ Remove the power button case.


OP. button cover (S)
Stand cover (L)
Stand cover (R)
Power button case
③
①
①
④
③
②
①
①
⑤
②
⑥
⑤
2
1
2
1

• Screw tightening order
The other screws are random order.

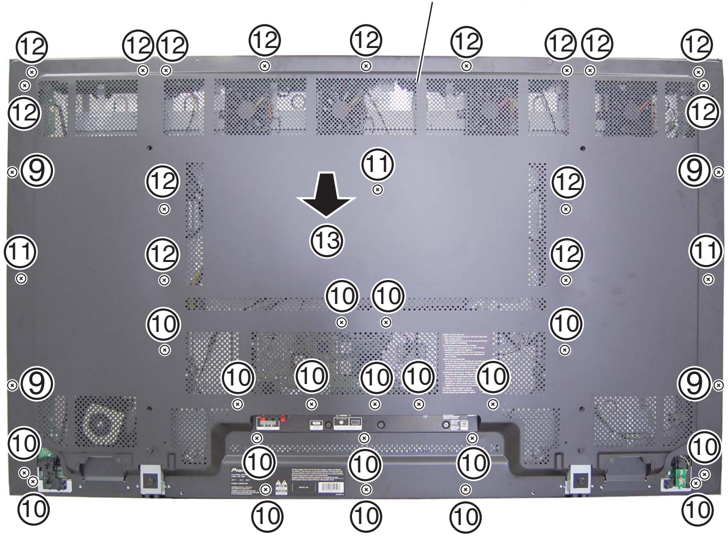
● Under grip

⑦ Remove the four N grip screws. (ABA1381)
⑧ Remove the two under grips.


Under grip
Under grip
⑦
⑦
⑧
⑦
⑦
⑧
POW SW Assy

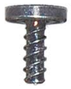
● Rear case Assy (60M)

⑨ Remove the four screws. (ABA1380)
⑩ Remove the 19 N grip screws. (ABA1381)
⑪ Remove the three screws. (ABA1379)
⑫ Remove the 15 N grip screws. (ABA1381)
⑬ Remove the rear case Assy (60M).

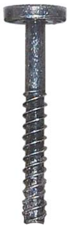

Rear case Assy (60M)
⑫ ⑫ ⑫ ⑫ ⑫ ⑫ ⑫ ⑫ ⑫
⑫ ⑫
⑨ ⑪ ⑫ ⑫ ⑨
⑬
⑪ ⑫ ⑫ ⑪
⑩ ⑩ ⑩ ⑩
⑨ ⑩ ⑩ ⑩ ⑩ ⑩ ⑨
⑩ ⑩ ⑩ ⑩ ⑩
⑩ ⑩ ⑩ ⑩ ⑩

• Reference

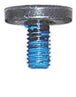
ABA1379



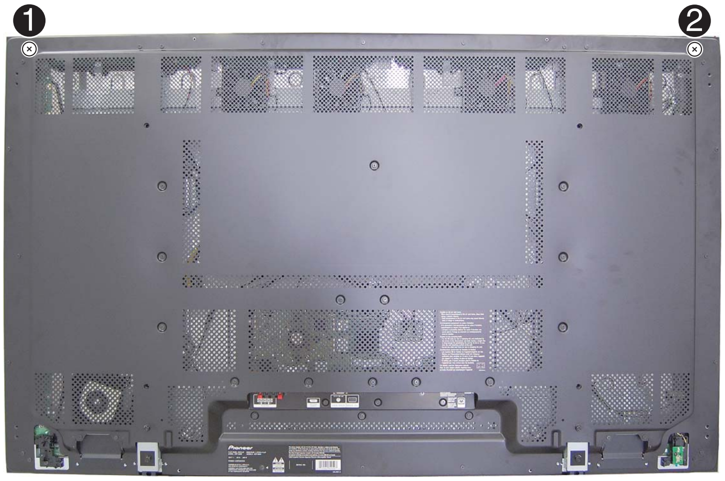
ABA1380



ABA1381

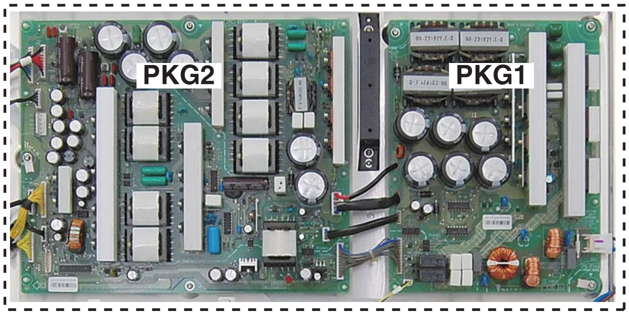


• Screw tightening order
The other screws are random order.



Notes on Removing the POWER SUPPLY Unit

1. Construction of the POWER SUPPLY Unit
The POWER SUPPLY Unit comprises two boards, which must be replaced at the same time.
(These boards are delivered as a set if ordered.)



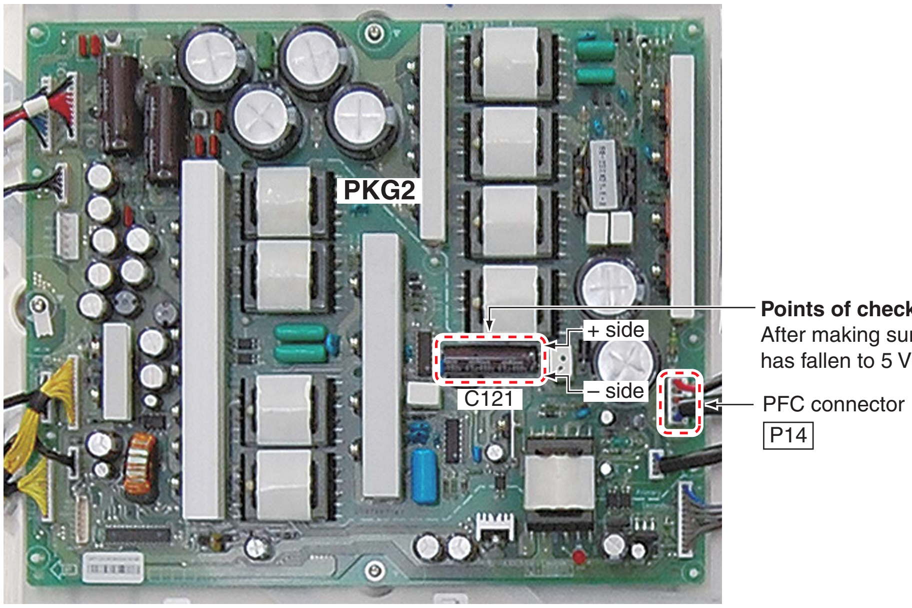
POWER SUPPLY Unit

2. Discharge of residual electric charge
Immediately after the power cord is unplugged, residual electric charge remains for about 3-5 minutes in the capacitor inside the POWER SUPPLY Unit.
Before removing the POWER SUPPLY Unit, make sure that residual electric charge has fallen to a safe level.

How to discharge residual electric charge rapidly
Discharge residual electric charge by connecting two 220 Ω (10 W) forced discharging resistors (440 Ω in total,) one to each end, of C121.

<How to remove the POWER SUPPLY Unit>

① Make sure that the power cord is unplugged. Check the voltage of both ends of C121 on the PKG2, using a tester.
② Wait until the voltage at both ends of C121 has fallen to 5 V or less.
③ When the voltage becomes less than 5 V, disconnect the connectors of the POWER SUPPLY Unit then remove it.



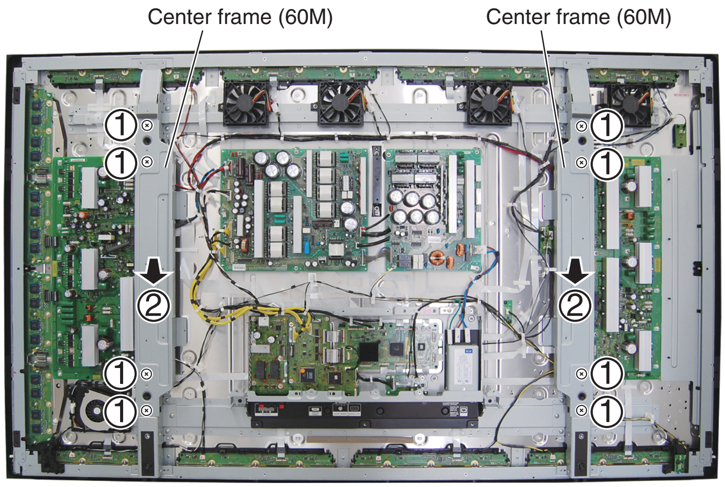
Points of checking residual electric charge:
After making sure that the voltage of both ends of C121 has fallen to 5 V or less, disconnect the PFC connector.

2 Center Frame (60M)

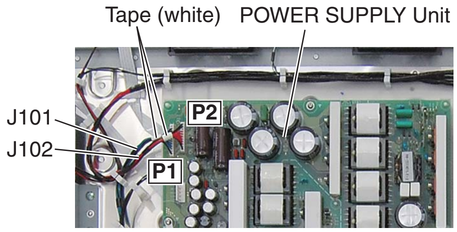
Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

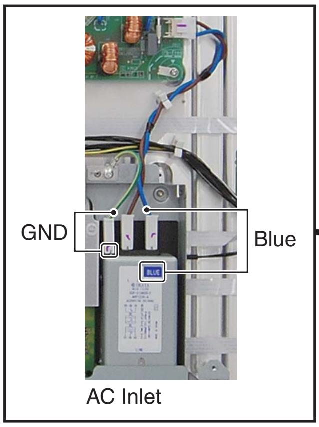
① Remove the eight screws. (AMZ40P080FTB)

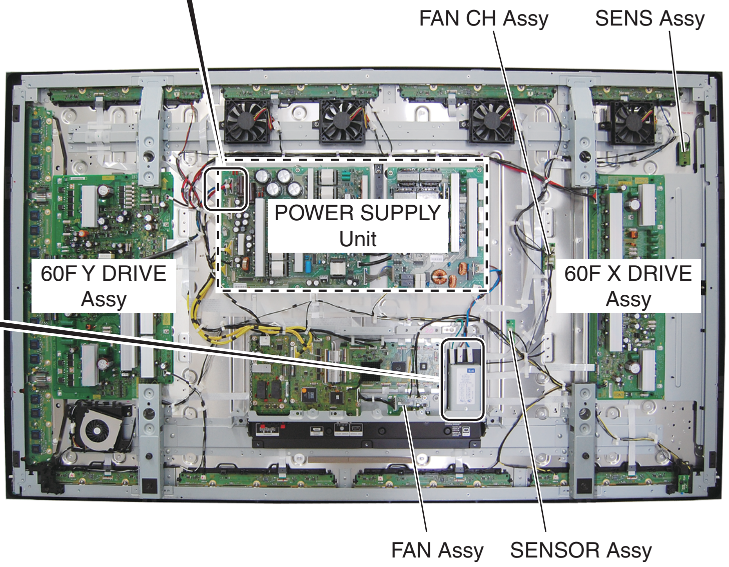
② Remove the two center frames (60M).


Center frame (60M)
Center frame (60M)
①
①
①
①
①
①
①
①
②
②

The J101 and J102 cables require correct orientation for connection. Connect the connectors with white tape to the POWER SUPPLY Unit.


Tape (white)
POWER SUPPLY Unit
J101
J102
P2
P1


GND
Blue
AC Inlet

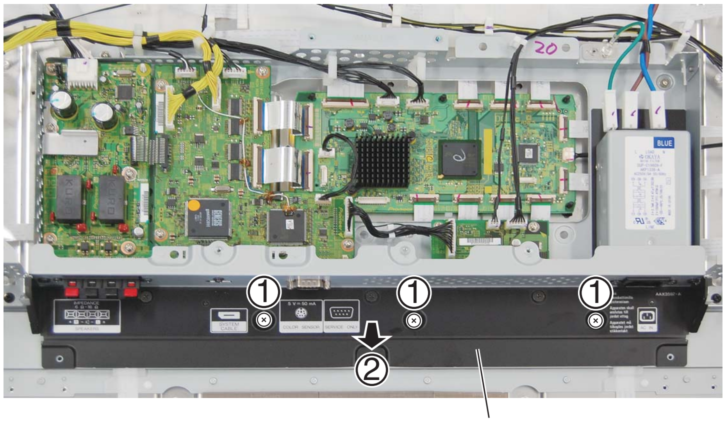

FAN CH Assy
SENS Assy
POWER SUPPLY Unit
60F Y DRIVE Assy
60F X DRIVE Assy
FAN Assy
SENSOR Assy

3 MAIN and AUDIO Assys

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

● Under cover

① Remove the three N grip screws. (ABA1381)
② Remove the under cover.



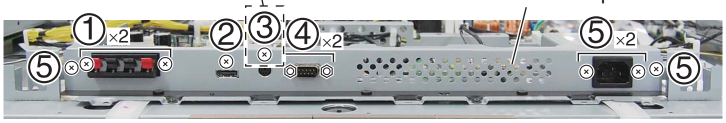
Under cover

● Terminal panel SEP

① Remove the two screws. (BPZ30P080FTB)
② Remove the one screw. (AMZ30P060FTB)
③ Remove the one screw. (BMZ30P060FTB)
④ Remove the two hexagon headed screws. (ABA1382)
⑤ Remove the four N grip screws. (ABA1381)

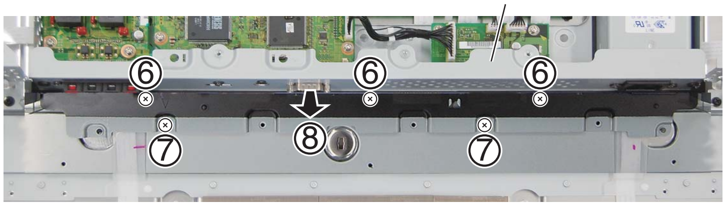
Note:
Do not use an electric screwdriver.
If the screw is over-tightened, the screw thread may be damaged.

Terminal panel SEP

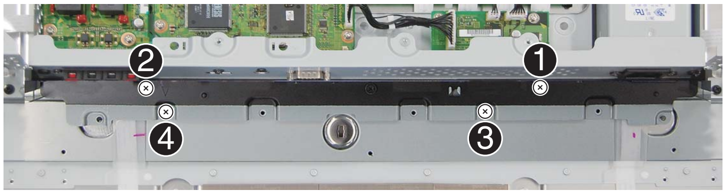


⑥ Remove the three N grip screws. (ABA1381)
⑦ Remove the two screws. (AMZ30P060FTB)
⑧ Remove the terminal panel SEP.

Terminal panel SEP



• Screw tightening order
The other screws are random order.



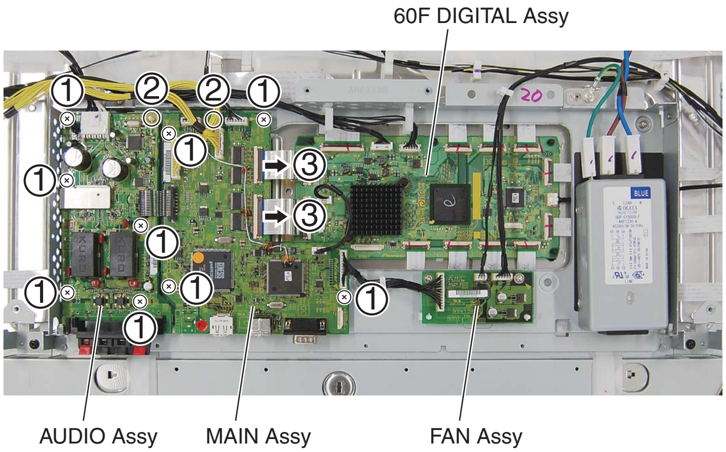
● MAIN and AUDIO Assys

① Remove the nine screws. (PMB30P060FNI)

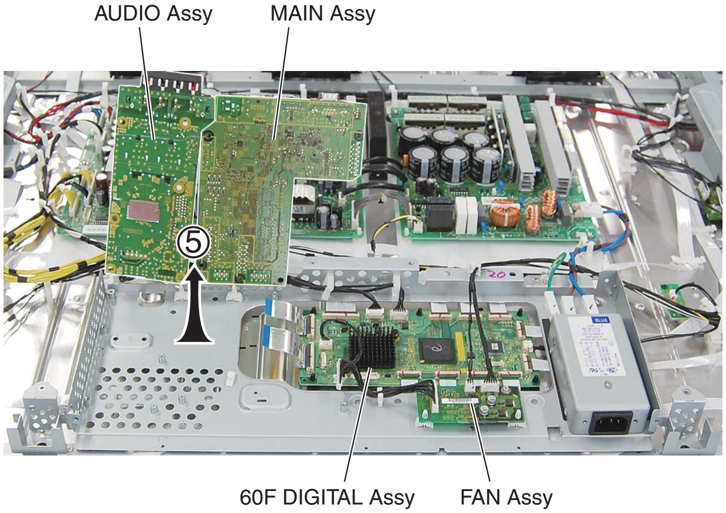
② Release the two PCB spacers (reuse).

③ Disconnect the two flexible cables.

④ Disconnect cables, connectors, as requied.


60F DIGITAL Assy
① ② ② ①
①
③
③
①
①
①
①
①
①
①
20
AUDIO Assy
MAIN Assy
FAN Assy

⑤ Lift the MAIN and AUDIO Assys to the direction of the arrow.


AUDIO Assy
MAIN Assy
⑤
20
60F DIGITAL Assy
FAN Assy

4 60F DIGITAL Assy

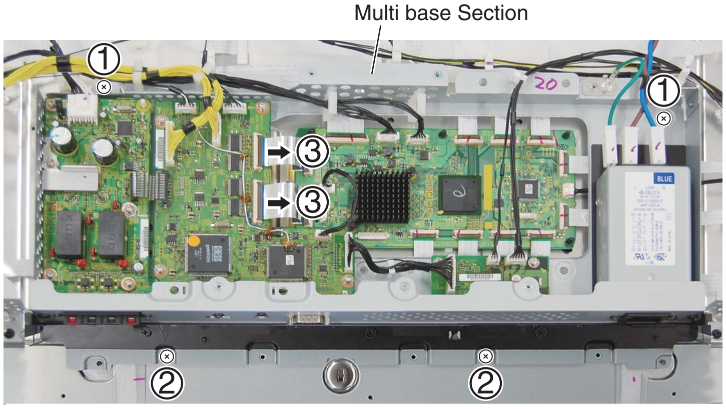
Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.

Note:
When you remove whole Multibase Section, it is not necessary to remove terminal panel SEP.

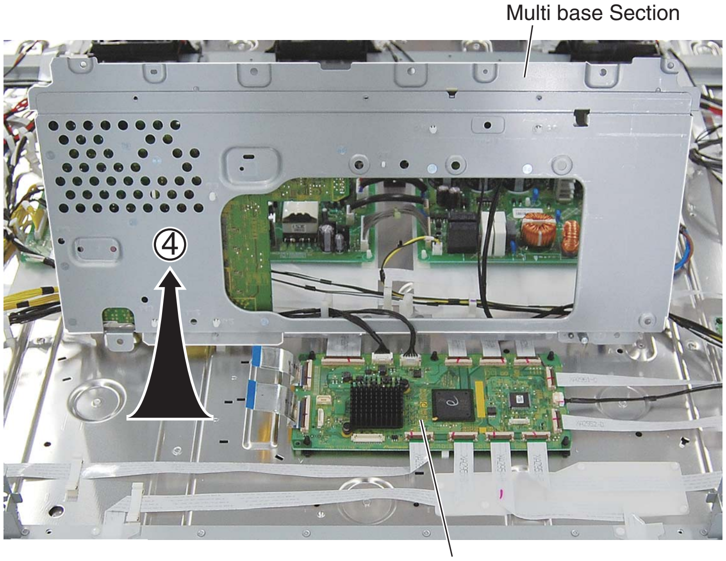
① Remove the two screws. (ABA1351)

② Remove the two screws. (AMZ30P060FTB)

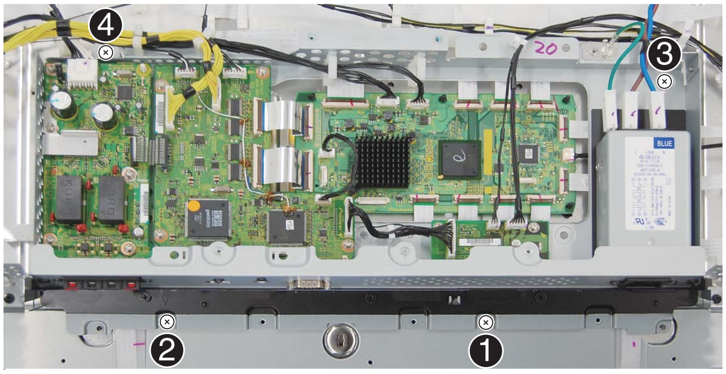
③ Disconnect the two flexible cables.


Multi base Section
①
①
③
③
②
②

④ Lift the multi base section to the direction of the arrow.


Multi base Section
④
60F DIGITAL Assy

- **Screw tightening order**

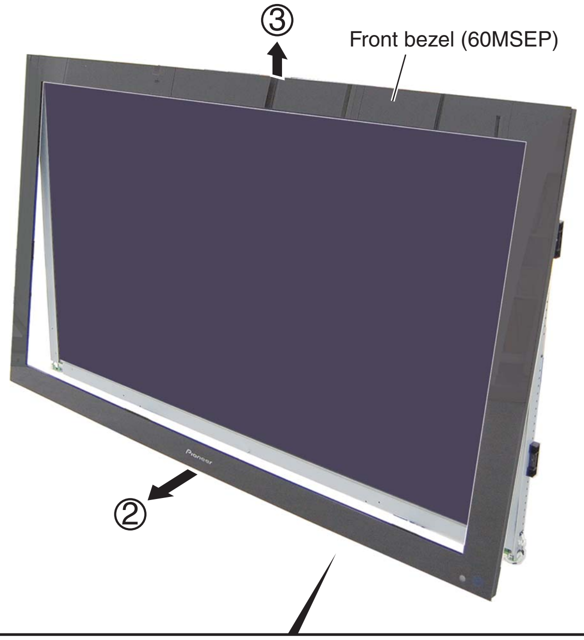


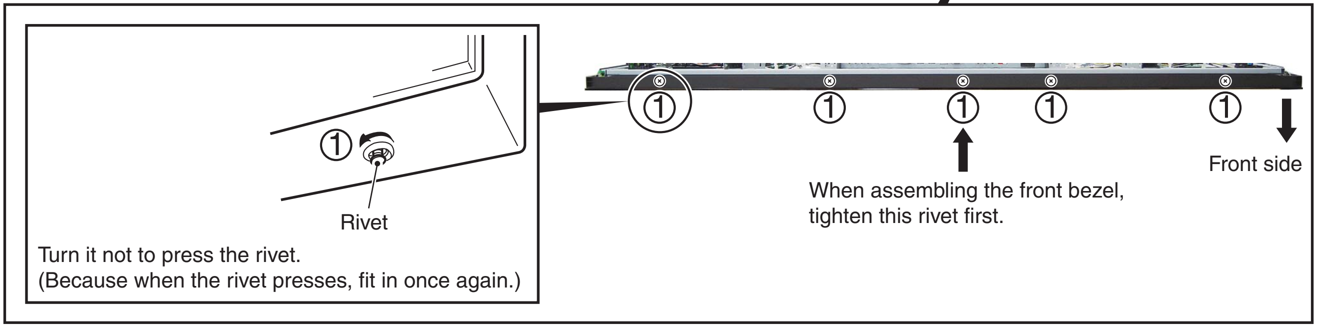
5 Front Bezel (60MSEP)

① Remove the five rivets.

② Pull the lower part of the front bezel (60MSEP) toward you and out.

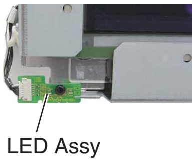
③ Remove the front bezel (60MSEP), by pulling it upward.

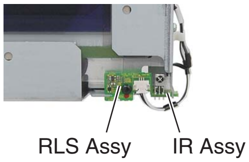

③
Front bezel (60MSEP)
②


①
Rivet
①
①
①
①
①
Front side

Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)

When assembling the front bezel, tighten this rivet first.



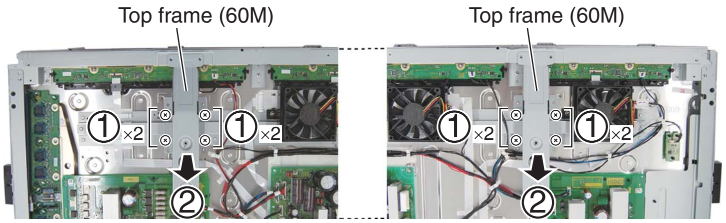

RLS Assy
IR Assy

6 Access to 60F ADDRESS L and S Assys

● Top frame (60M)

① Remove the eight screws. (TBZ40P060FTC)

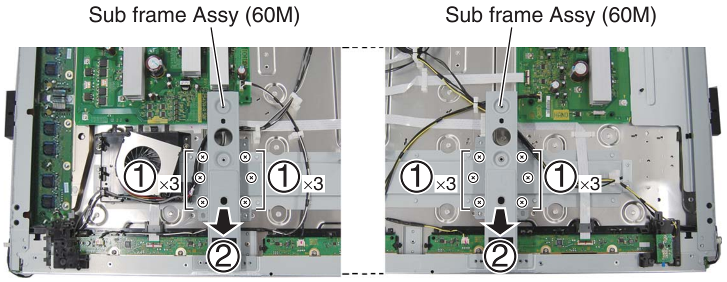
② Remove the two top frames (60M).


Top frame (60M)
Top frame (60M)
①×2
①×2
①×2
①×2
②
②

● Sub frame Assy (60M)

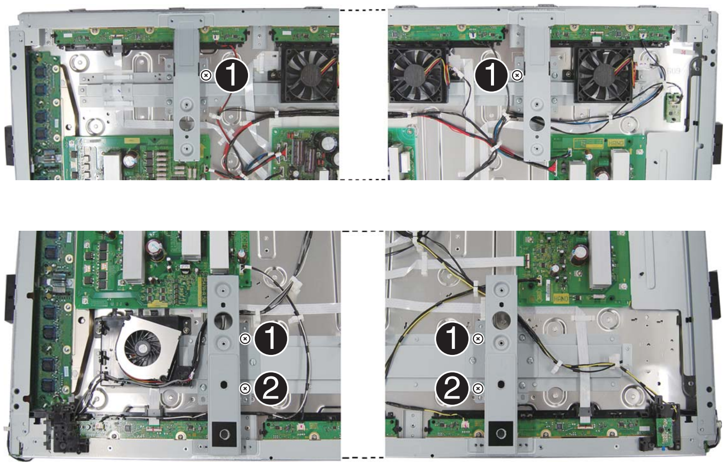
① Remove the 12 screws. (TBZ40P060FTC)

② Remove the two sub frame Assys (60M).


Sub frame Assy (60M)
Sub frame Assy (60M)
①×3
①×3
①×3
①×3
②
②

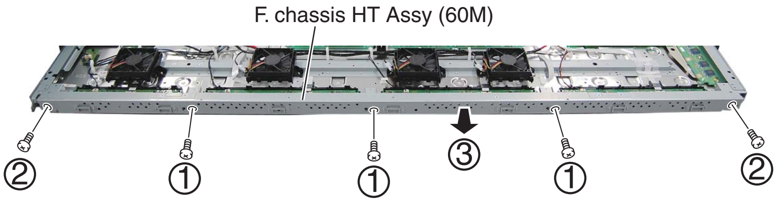
• Screw tightening order

The other screws are random order.



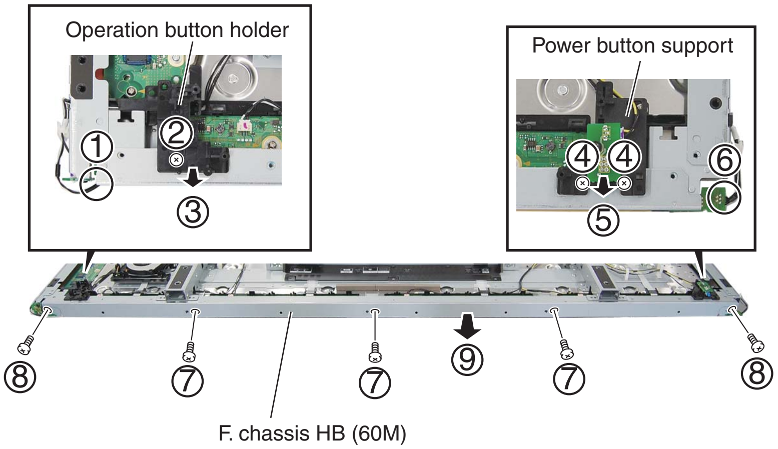
● F. chassis HT Assy (60M)

① Remove the three screws. (APZ30P080FTB)
② Remove the two screws. (ABZ30P080FTC)
③ Remove the F. chassis HT Assy (60M).


F. chassis HT Assy (60M)
②
①
①
③
①
②

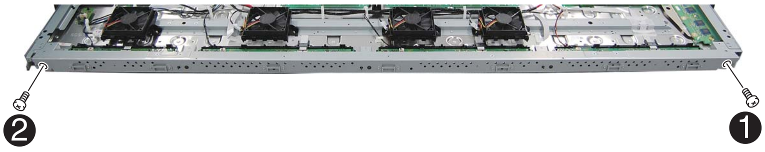
● F. chassis HB (60M)

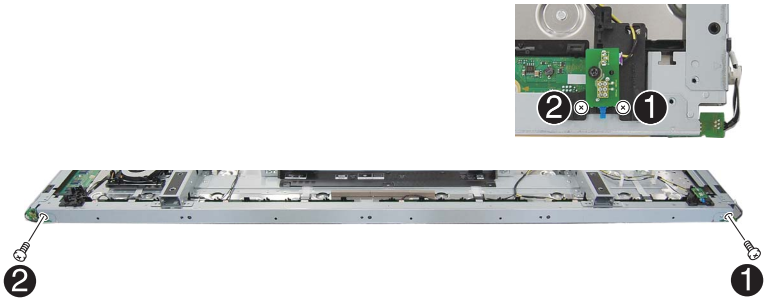
① Release the jumper wire.
② Remove the one N grip screws. (ABA1381)
③ Remove the operation button holder.
④ Remove the two N grip screws. (ABA1381)
⑤ Remove the power button support.
⑥ Release the jumper wire.
⑦ Remove the three screws. (APZ30P080FTB)
⑧ Remove the two screws. (ABZ30P080FTC)
⑨ Remove the F. chassis HB (60M).


Operation button holder
①
②
③
Power button support
④
④
⑥
⑤
⑧
⑦
⑦
⑨
⑦
⑧
F. chassis HB (60M)

- **Screw tightening order**

The other screws are random order.

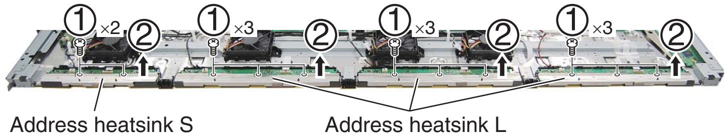


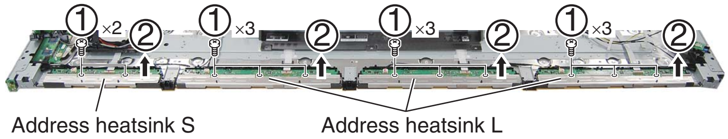


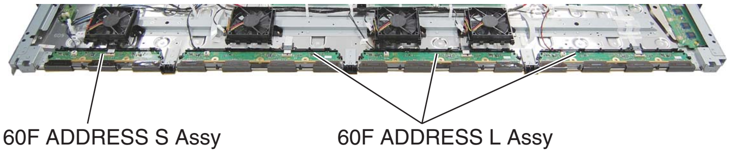
● Address heatsink S and L

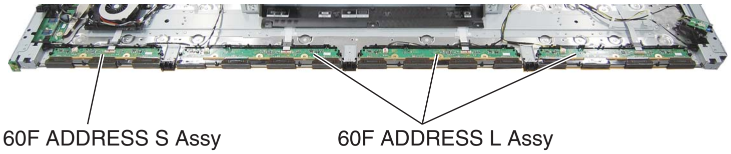
① Remove the 22 screws. (ABA1351)

② Remove the two address heatsinks S and six address heatsinks L.


①×2
②
①×3
②
①×3
②
①×3
②
Address heatsink S
Address heatsink L


①×2
②
①×3
②
①×3
②
①×3
②
Address heatsink S
Address heatsink L

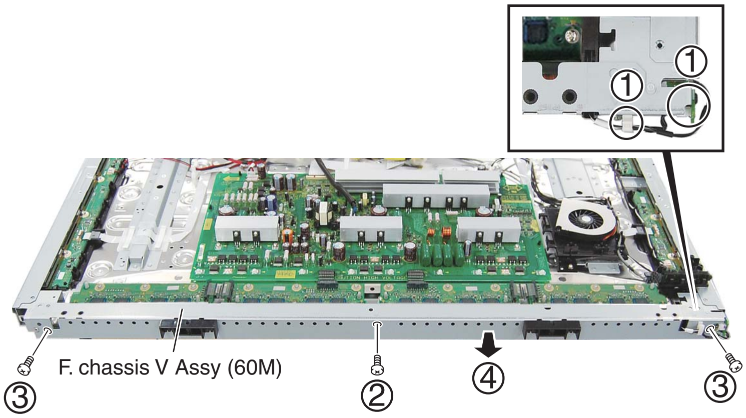

60F ADDRESS S Assy
60F ADDRESS L Assy


60F ADDRESS S Assy
60F ADDRESS L Assy

7 Access to 60F SCAN A, B, C and D Assys

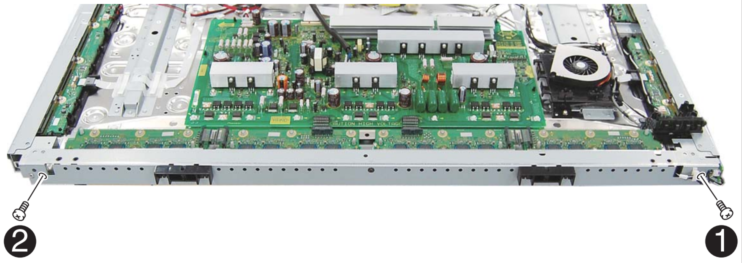
● F. chassis V Assy (60M)

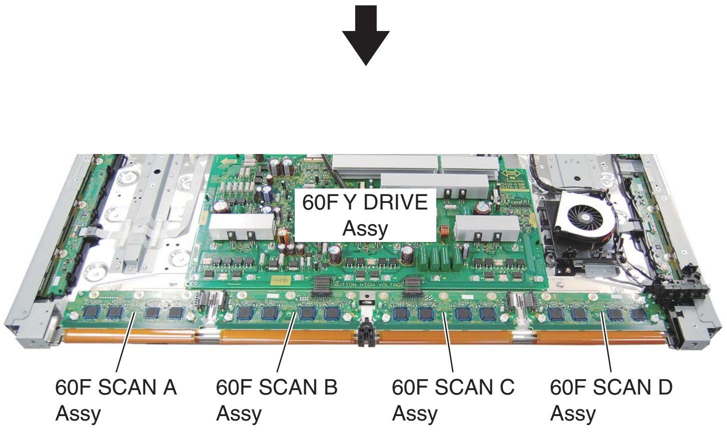
① Release the two jumper wires.
② Remove the one screw. (APZ30P080FTB)
③ Remove the two screws. (ABZ30P080FTC)
④ Remove the F. chassis V Assy (60M).


①
①
F. chassis V Assy (60M)
③
②
④
③

• Screw tightening order

The other screws are random order.




60F Y DRIVE Assy
60F SCAN A Assy
60F SCAN B Assy
60F SCAN C Assy
60F SCAN D Assy

8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” .
DIGITAL Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
X DRIVE Assy	➡	No adjustment required
Y DRIVE Assy	➡	No adjustment required
Service Panel Assy	➡	Refer to “8.3 HOW TO CLEAR HISTORY DATA” and “8.4 ADJUSTMENTS WHEN THE SERVICE PANEL ASSY IS REPLACED”.
MAIN Assy (Note)	➡	No adjustment required
AUDIO Assy	➡	No adjustment required
SENSOR Assy	➡	Writing of backup data is required. Refer to the “8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)”.
Other assemblies	➡	No adjustment required

Note: After replacing the MAIN Assy, be sure to perform the FINAL SETUP.
To perform the FINAL SETUP for the display main unit and module via the RS-232C connector on the display, set the unit to Standalone Operation mode, by issuing the SYSS00 command, then issue the FAY command then FSP command. (Common to models of any size and for any destination)
To perform the FINAL SETUP of the entire system, i.e., the display and the Media Receiver (MR), input commands via the RS-232C connector on the MR in System Operation mode.
For details, refer to the service manual of the Media Receiver.

When any of the following parts is replaced

Notes on replacing parts

For the parts described in the list below, replacement is required for the whole Assy, not only the defective part.
If any part listed below is identified as defective and needs replacement, replace the whole Assy, and make necessary adjustments after replacement.

PCB Assy No.	Assy Name	Parts that Require Whole-Assy Replacement		
		Ref No.	Function Name	Part No.
AWV2538	DIGITAL Assy	IC3302	Flash ROM	AGC1069
		IC3601	Flash UCOM	AGC1068
AWV2597	X DRIVE Assy	• Parts of X D-D CON BLOCK		
AWV2598	Y DRIVE Assy	• Parts of Y VF D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 1 • Parts of Y MAIN D-D CON BLOCK 2		
AWW1393	MAIN Assy	IC5001	Display port Rx IC	GM68020H-CG-K
		IC5003	EEPROM	S25FL016A0LMF013
		IC5005	EEPROM	M2404HEPROM
		IC7001	Flash UCOM	MB91F356B-G-SPE1-K
		IC7003	EEPROM	BR24L02FJ-W

Reason: The whole Assy must be replaced, because adjustments and data rewriting for the Assy at the level of production line are required.

For the parts described in the table below, replacement of individual parts is difficult, because a heat pad is provided under the bottom of the ICs.

PCB Assy No.	Assy Name	Parts that Replacement is Possible		
		Ref No.	Function Name	Part No.
AWW1393	MAIN Assy	IC4501	Regulator IC	NJM2871BF05
		IC4503	Regulator IC	PQ025ENA1ZPH
		IC4504	Regulator IC	NJM2846DL3-18
		IC7004	Regulator IC	NJM2846DL3-33
AWW1398	AUDIO Assy	IC8331	Regulator IC	NJM2846DL3-33
		IC8401	Digital Amp	TAS5122DCA
AWW1394	FAN Assy	IC1201	Regulator IC	PQ200WNA1ZPH
		IC1202	Regulator IC	PQ200WNA1ZPH

POWER SUPPLY Unit	➡	The assembly must be replaced as a unit, and no part replacement is allowed.
MAIN Assy	➡	No adjustment required
AUDIO Assy	➡	No adjustment required
DIGITAL Assy	➡	No adjustment required
X DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
Y DRIVE Assy	➡	No adjustment is required after replacement of parts other than those shown in “8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED.
ADDRESS Assy	➡	No adjustment required
SENSOR Assy	➡	No adjustment required
Other assemblies	➡	No adjustment required

8.2 BACKUP OF THE EEPROM (DIGITAL ASSY)

Outline

Adjustment data are stored in the EEPROM on the DIGITAL Assy in the production process. Those adjustment data are also automatically stored in the EEPROM (for backup) on the SENSOR Assy.
If the DIGITAL Assy is replaced, those adjustment data for backup can be copied from the EEPROM on the SENSOR Assy to a new DIGITAL Assy.

Backed up data

- Drive voltage adjustment value
- Panel white balance adjustment value
- Drive waveform adjustment value
- Hour-meter count
- Pulse-meter count
- P-ON counter value
- Serial No.
- PD/SD histories

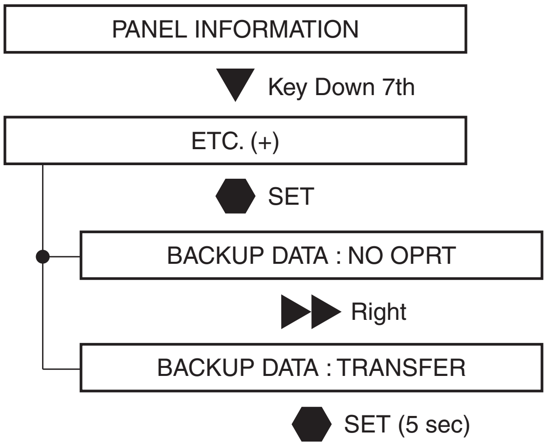
How to copy backup data

1. When the DIGITAL Assy is replaced with one for service (usual service)

Immediately after the DIGITAL Assy is replaced, the EEPROM on the DIGITAL Assy is in the status "adjustment not completed," and the EEPROM for backup on the SENSOR Assy is in the status "adjustment completed." The LED on the main unit warns you that the adjustment data in the EEPROM for backup have not been copied to the EEPROM on the DIGITAL Assy, by lighting the red LED and flashing the blue LED. In such a case, the adjustment data for backup can be used by copying the data to the EEPROM on the DIGITAL Assy, with the following procedures:

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP" and "ADJUSTED" is set for "BACKUP".
④ Copy the backup data, as shown in the figure below.



⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed" and that the adjustment backup flag is "adjustment completed."
④ Issue the BCP command to transfer the data stored in the EEPROM for backup.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
⑥ Turn off the power.

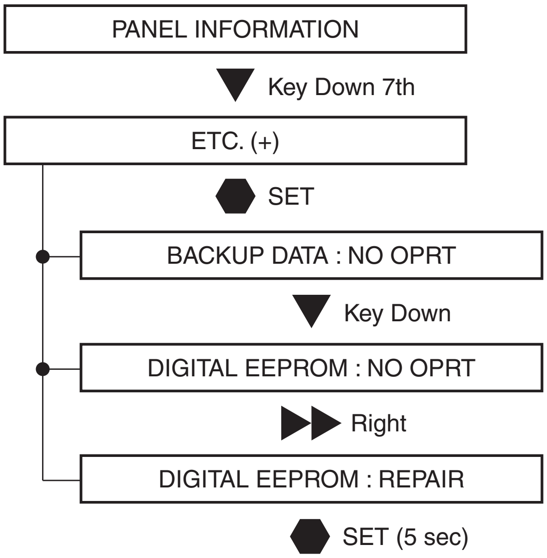
Note: If both the DIGITAL and SENSOR Assys are to be replaced, replace the SENSOR Assy first in order to store the backup data. Then turn the unit on then back off again, then replace the DIGITAL Assy.

2. When manual adjustment is required after the DIGITAL Assy is replaced with one for service

If backup data cannot be transferred to the DIGITAL Assy because of defective parts, etc., after the DIGITAL Assy is replaced and manual adjustment is performed, those manually adjusted data can be registered as adjusted data with the following procedures. Once the data on the DIGITAL Assy are registered as adjusted data, the adjustment data for backup will be automatically updated each time the unit is turned off. Therefore, if a DIGITAL Assy with adjusted data is mounted on the unit, the following procedures are not required, even after manual adjustment.

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "NO DATA!" is set for "DIG. EEP".
④ Register the changed adjustment data as adjusted data, as described for the following procedures, then transfer them as backup data.



⑤ Check if "ADJUSTED" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

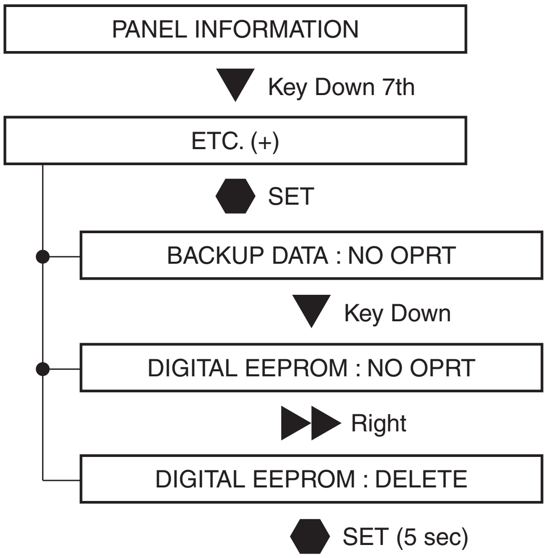
① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment not completed."
④ Issue the FAJ command to register the changed adjustment data as adjusted data then transfer them as backup data.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment completed."
⑥ Turn off the power.

3. When a secondhand DIGITAL Assy is to be reused

A DIGITAL Assy in good condition that had been mounted in another product can be reused. Before reuse, by following the procedures described below, make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data in order to prevent accidental updating of backup data when the secondhand DIGITAL Assy is mounted in another product

(1) Copying, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Display the PANEL INFORMATION page, then check if "ADJUSTED" is set for "DIG. EEP".
④ Make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data, by following the procedures below:



⑤ Check if "NO DATA!" is set for "DIG. EEP" on the PANEL INFORMATION page.
⑥ Turn off the power.

(2) Copying, using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ With the QS2 command, confirm that the main unit adjustment flag is "adjustment completed."
④ Issue the UAJ command to make the data in the EEPROM on the DIGITAL Assy "adjustment not completed" data.
⑤ With the QS2 command, confirm that the main unit adjustment flag becomes "adjustment not completed."
⑥ Turn off the power.

Note: If you mount a secondhand Assy to the product without performing the above procedures, the adjustment data and logs for the main unit specific to the product will be erased, and those of the secondhand Assy will be copied when the unit is turned off.

8.3 HOW TO CLEAR HISTORY DATA

■ Clearance of various logs after the Assys are replaced

Besides adjustment data, data on accumulated power-on time and logs on defective parts of the product are backed up.
Some of those data must be cleared after the Assys are replaced for service.
Clearance of those data can be performed in the ETC layer of the Factory menu or with RS232C commands.

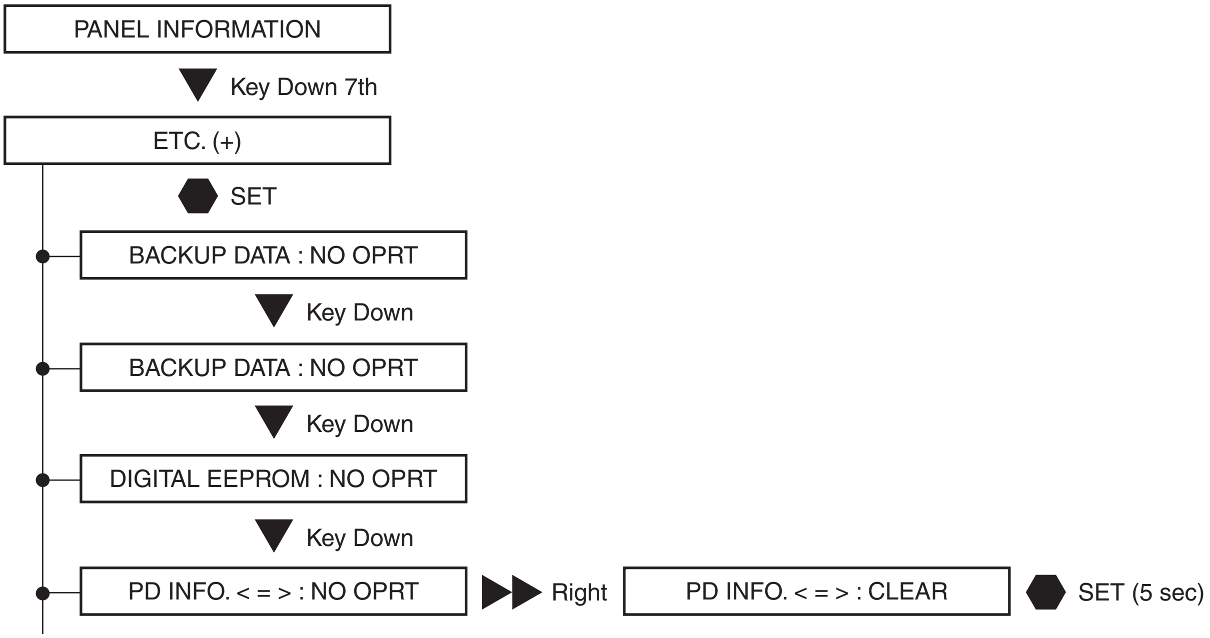
Item	Content	Clearing at the Replacement			Clearing method	
		Panel	POWER SUPPLY Unit	Other parts	Factory Menu (ETC layer)	RS-232C Commands
Hour-meter	Accumulated power-on time	Must be cleared	No need to be cleared	No need to be cleared	HR-MTR INFO.	CHM
Pulse-meter	Accumulated number of pulses emitted	Must be cleared (mandatory)	No need to be cleared	No need to be cleared	PM/B1-B5	CPM
Shutdown history of the panel	Causes and hour-meter values for the last eight shutdowns (SD) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	SD INFO.	CSD
Power-down history	Causes and hour-meter values for the last eight power-downs (PDs) of the Panel	Must be cleared	No need to be cleared	No need to be cleared	PD INFO.	CPD
Power-on counter	Relay-on count	No need to be cleared	Must be cleared (mandatory)	No need to be cleared	P COUNT INFO.	CPC
MAX TEMP	Historical max. temperature of the panel	Must be cleared	Must be cleared	Must be cleared	MAX TEMP.	CMT

Notes:
- As the pulse-meter count is used for each correction function, the log must be cleared when the panel is replaced.
- After you clear the log, the unit must be turned off then back on again to reflect the cleared data for each correction function. If any adjustment is required after clearing the log, be sure to turn the unit off then back on again before adjustment.

(1) Clearance of logs, using the Factory menu

① Turn on the power.
② Enter the Panel Factory mode.
③ Clear the various logs, as shown in the figure below.

Note: The following example shows how to clear the PD log (PD INFO.). To clear other items, select each item you wish to clear then perform the same procedures.



④ Turn off the power.

(2) Using the RS-232C commands

① Turn on the power.
② Issue the FAY command.
③ Issue the Delete command for a log you wish to clear.
④ Turn off the power.

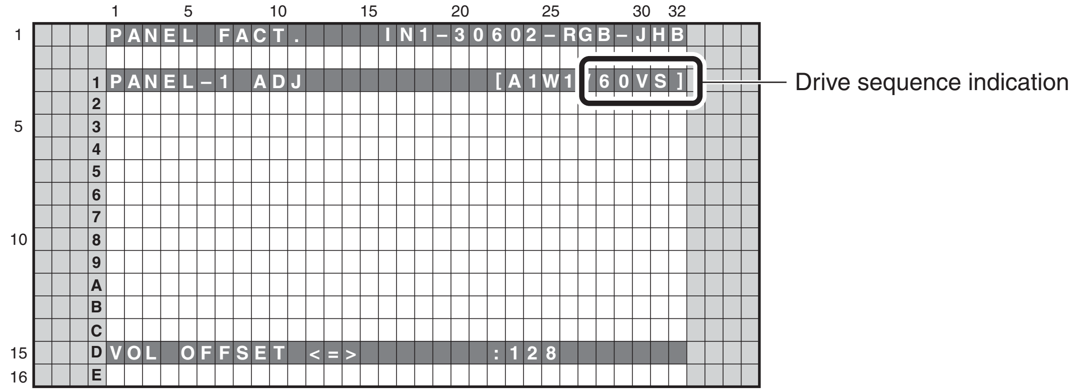
8.4 ADJUSTMENT WHEN THE SERVICE PANEL ASSY IS REPLACED

After the panel is replaced with one for service, voltage margin adjustment is required.

[Preparation]

Basically, voltage margin adjustment is performed using the Panel Factory menu.
After the panel is replaced and the unit is turned on, clear the pulse meter first.
For details on how to clear the pulse meter, see "8.3 HOW TO CLEAR HISTORY DATA".

∗1: As various corrections are made referring to the pulse-meter count to calculate how long the panel has been used, if adjustment of the panel for service is performed without clearing the pulse-meter count, proper adjustments will not be performed.
∗2: The drive sequence for Video 60-Hz is used for adjustment. When adjustment is made using the Panel Factory menu, the current drive sequence is displayed on the screen, as shown in the figure below. Make sure that 60VS is always indicated during adjustment.
∗3: Selct the input function excepting PC.



```
PANEL FACT.       IN1-30602-RGB-JHB

1PANEL-1 ADJ          [A1W1/60VS]
DVOL OFFSET <=>       :128
```

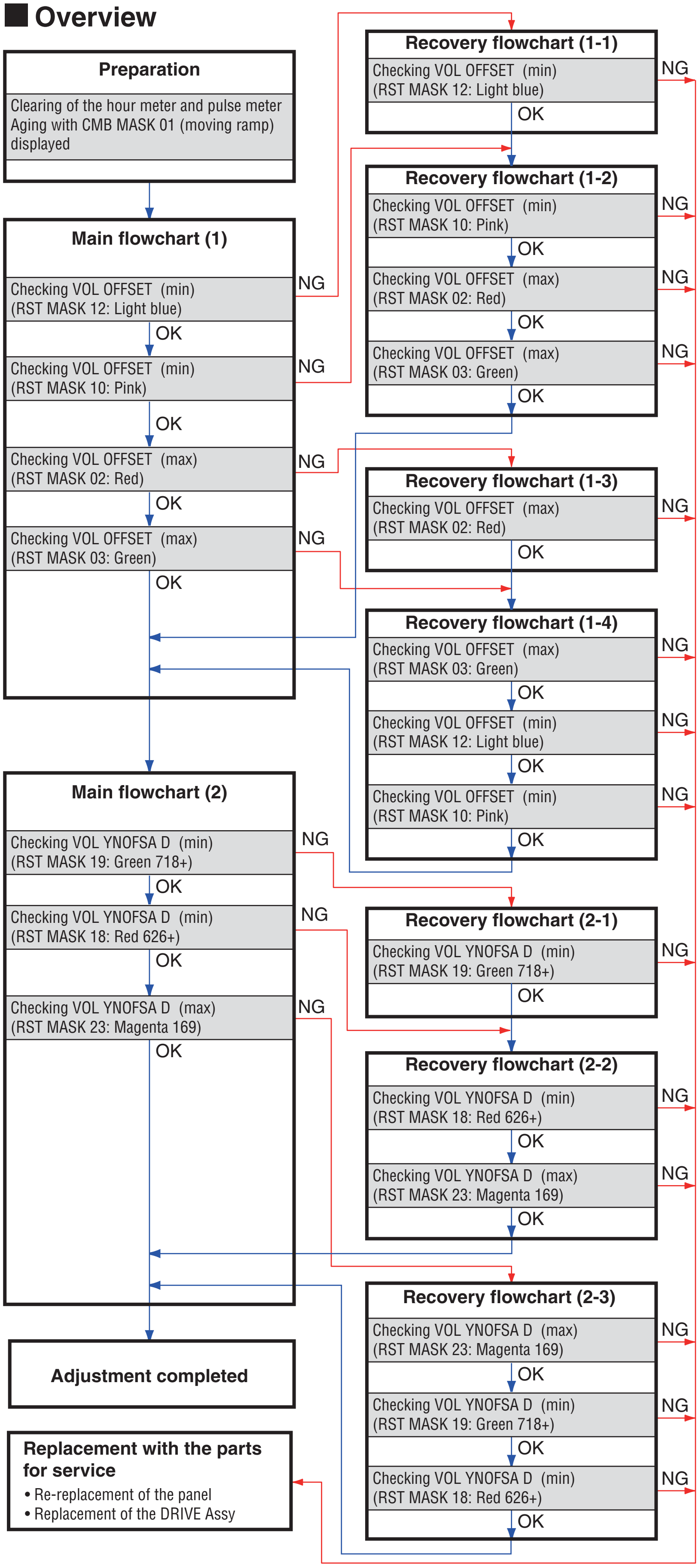
Drive sequence indication

Example of the On-Screen display during Panel Factory mode

[Supplement]

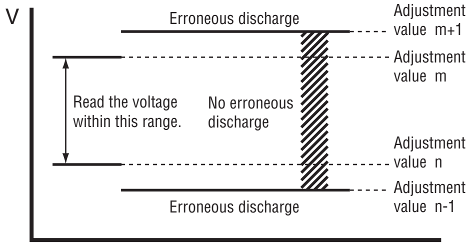
In the "PANEL-1ADJ" layer, the Panel White Balance value is reset to default, Panel Gamma is set to Straight, Noise is set to OFF, LUT mode is set to ON and Reset active control is set to OFF.
If adjustment is performed using RS232C commands, unlike the case of Factory menu operation, adjustments are not interlocked. Therefore, settings must be performed individually, by issuing commands. (See the section on preparations before adjustment.)

Overview


Preparation
Clearing of the hour meter and pulse meter
Aging with CMB MASK 01 (moving ramp) displayed
Main flowchart (1)
Checking VOL OFFSET (min) (RST MASK 12: Light blue)
NG
OK
Checking VOL OFFSET (min) (RST MASK 10: Pink)
NG
OK
Checking VOL OFFSET (max) (RST MASK 02: Red)
NG
OK
Checking VOL OFFSET (max) (RST MASK 03: Green)
NG
OK
Main flowchart (2)
Checking VOL YNOFSA D (min) (RST MASK 19: Green 718+)
NG
OK
Checking VOL YNOFSA D (min) (RST MASK 18: Red 626+)
NG
OK
Checking VOL YNOFSA D (max) (RST MASK 23: Magenta 169)
NG
OK
Adjustment completed
Replacement with the parts for service
• Re-replacement of the panel
• Replacement of the DRIVE Assy
Recovery flowchart (1-1)
Checking VOL OFFSET (min) (RST MASK 12: Light blue)
NG
OK
Recovery flowchart (1-2)
Checking VOL OFFSET (min) (RST MASK 10: Pink)
NG
OK
Checking VOL OFFSET (max) (RST MASK 02: Red)
NG
OK
Checking VOL OFFSET (max) (RST MASK 03: Green)
NG
OK
Recovery flowchart (1-3)
Checking VOL OFFSET (max) (RST MASK 02: Red)
NG
OK
Recovery flowchart (1-4)
Checking VOL OFFSET (max) (RST MASK 03: Green)
NG
OK
Checking VOL OFFSET (min) (RST MASK 12: Light blue)
NG
OK
Checking VOL OFFSET (min) (RST MASK 10: Pink)
NG
OK
Recovery flowchart (2-1)
Checking VOL YNOFSA D (min) (RST MASK 19: Green 718+)
NG
OK
Recovery flowchart (2-2)
Checking VOL YNOFSA D (min) (RST MASK 18: Red 626+)
NG
OK
Checking VOL YNOFSA D (max) (RST MASK 23: Magenta 169)
NG
OK
Recovery flowchart (2-3)
Checking VOL YNOFSA D (max) (RST MASK 23: Magenta 169)
NG
OK
Checking VOL YNOFSA D (min) (RST MASK 19: Green 718+)
NG
OK
Checking VOL YNOFSA D (min) (RST MASK 18: Red 626+)
NG
OK

Range of margin measuring

Read the voltage within the hysteresis (stricter value).


V
Erroneous discharge
Adjustment value m+1
Adjustment value m
Read the voltage within this range.
No erroneous discharge
Adjustment value n
Erroneous discharge
Adjustment value n-1

Definition of limits for the voltage margins (abnormal lit/dead cells)

Abnormal lit cells:

- Five or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

Abnormal dead cells

- Fifteen or fewer abnormal cells on the whole screen
- Two or fewer abnormal cells within a radius of 1 cm

∗: Abnormal cells visually recognizable at a distance of 1 meter from the panel must be counted.
∗: Cells displayed abnormally for less than one second are not counted as abnormal cells.

Definition of tones for the measuring signals

FHD signal (1920*1080)/Video 60-Hz sequence /Dither: ON, L dither: ON, noise: OFF

Red	RST MASK 02 (R 1023 /G 0 /B 0)
Green	RST MASK 03 (R 0 /G 1023 /B 0)
Pink	RST MASK 10 (R 908 /G 718 /B 908)
Light blue	RST MASK 12 (R 447 /G 812 /B 812)
Red 626+	RST MASK 18 (R 626 /G 120 /B 120)
Green 718+	RST MASK 19 (R 120 /G 718 /B 120)
Magenta 169	RST MASK 23 (R 169 /G 0 /B 169)

Interlocked settings for Voltages Vyknofs1/3/4

For the 9th-generation PDPs, interlocked setting for Voltages Vyknofs1/3/4 is available on the Factory menu or with RS232C commands, for easier adjustment. Therefore, in the adjustment flowchart, the interlocked setting function is used. (Individual setting for each adjustment value is also possible, as in the conventional setting methods.

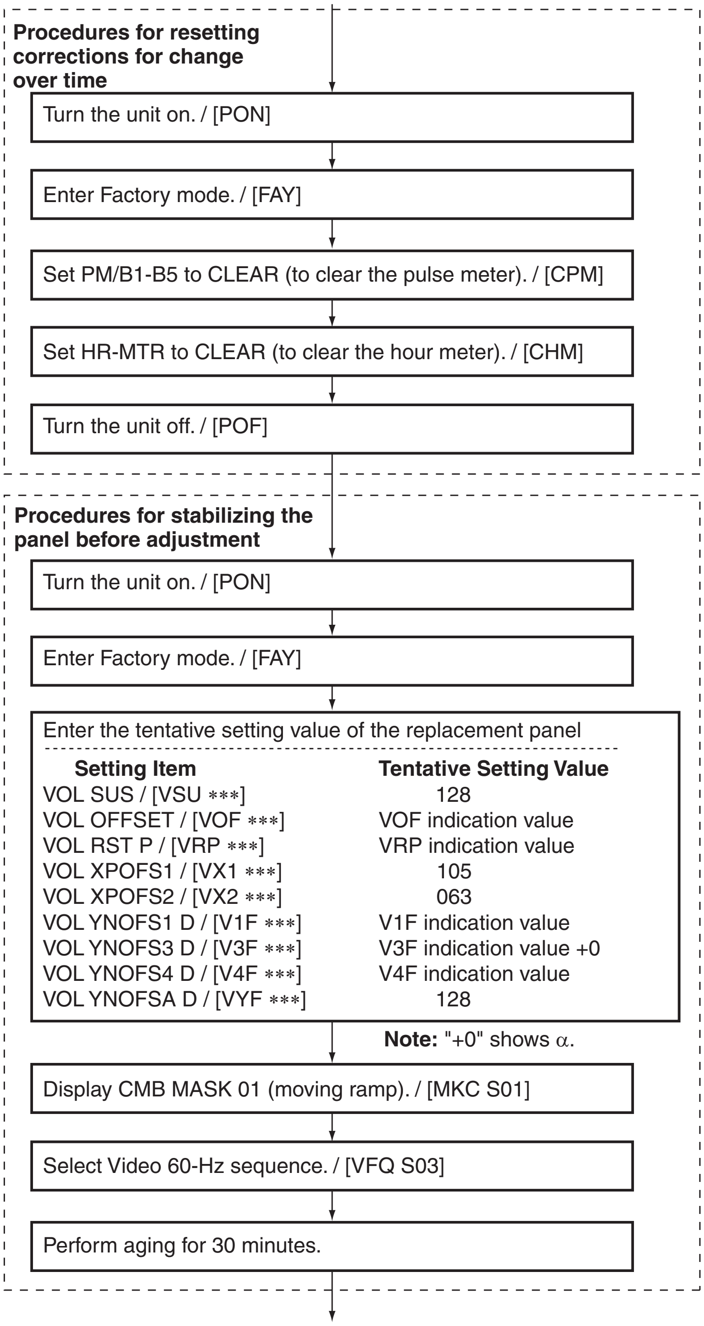
Set Voltage	Factory Menu	Command
Vyknofs1 individual	VOL YNOFS1 D	[V1F]
Vyknofs3 individual	VOL YNOFS3 D	[V3F]
Vyknofs4 individual	VOL YNOFS4 D	[V4F]
Vyknofs1,3,4 interlocked	VOL YNOFSA D	[VYF]

Note:

- The initial value for the interlocked setting value is 128, including for factory preset values.
- See "[3] DRIVE ASSY" of "5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS" for calculation of actually used voltage values.

Preparation before adjustment

[Replacement with the panel for service is completed.]


Procedures for resetting corrections for change over time
Turn the unit on. / [PON]
Enter Factory mode. / [FAY]
Set PM/B1-B5 to CLEAR (to clear the pulse meter). / [CPM]
Set HR-MTR to CLEAR (to clear the hour meter). / [CHM]
Turn the unit off. / [POF]
Procedures for stabilizing the panel before adjustment
Turn the unit on. / [PON]
Enter Factory mode. / [FAY]
Enter the tentative setting value of the replacement panel
Display CMB MASK 01 (moving ramp). / [MKC S01]
Select Video 60-Hz sequence. / [VFQ S03]
Perform aging for 30 minutes.

Enter the tentative setting value of the replacement panel

Setting Item	Tentative Setting Value
VOL SUS / [VSU ∗∗∗]	128
VOL OFFSET / [VOF ∗∗∗]	VOF indication value
VOL RST P / [VRP ∗∗∗]	VRP indication value
VOL XPOFS1 / [VX1 ∗∗∗]	105
VOL XPOFS2 / [VX2 ∗∗∗]	063
VOL YNOFS1 D / [V1F ∗∗∗]	V1F indication value
VOL YNOFS3 D / [V3F ∗∗∗]	V3F indication value +0
VOL YNOFS4 D / [V4F ∗∗∗]	V4F indication value
VOL YNOFSA D / [VYF ∗∗∗]	128

Note: "+0" shows α.

∗ To reflect the results of log clearing for each correction function, the unit must be turned off then back on again. Before adjustment, be sure to turn the unit off then back on again.

Indication example of the adjustment label of service panel

AWU1287 Data **VOF=068**
VRP=018 **V1F=086** **V3F=096+α**
V4F=143 **Hour Meter__________ H**
Data 08/02/28 Chassis CXX99999
Time 18:27 Pnl FTEST123456

Note: The symbol "α" denotes the adjustment value plus 0.

∗ Each setting value described on the adjustment label denotes an indicated data value but not a real voltage value. Therefore, just enter the data value as a setting value.

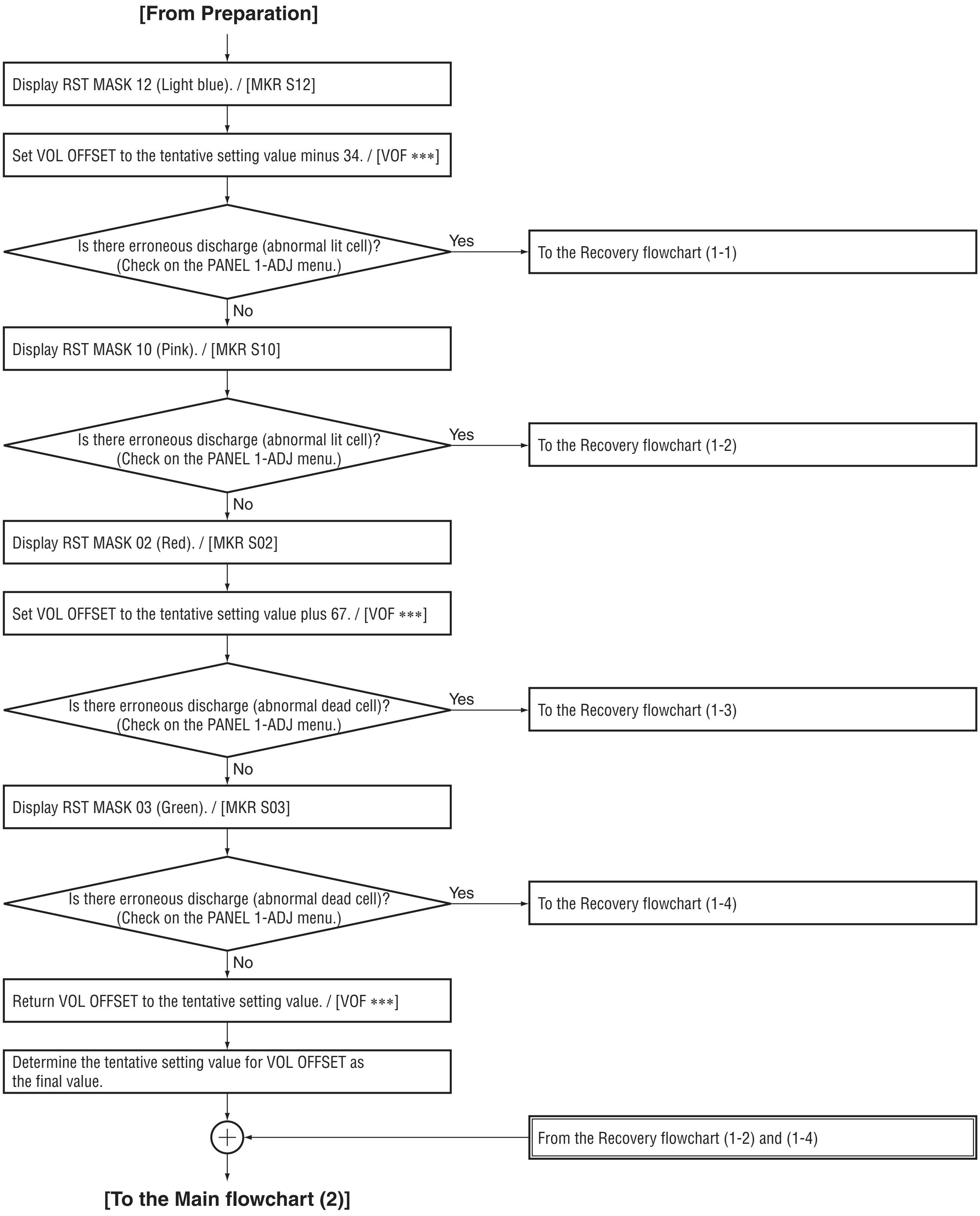
∗ To store the VFQ S03 command in memory, transmit it after displaying the mask.

[To the Main flowchart (1)]

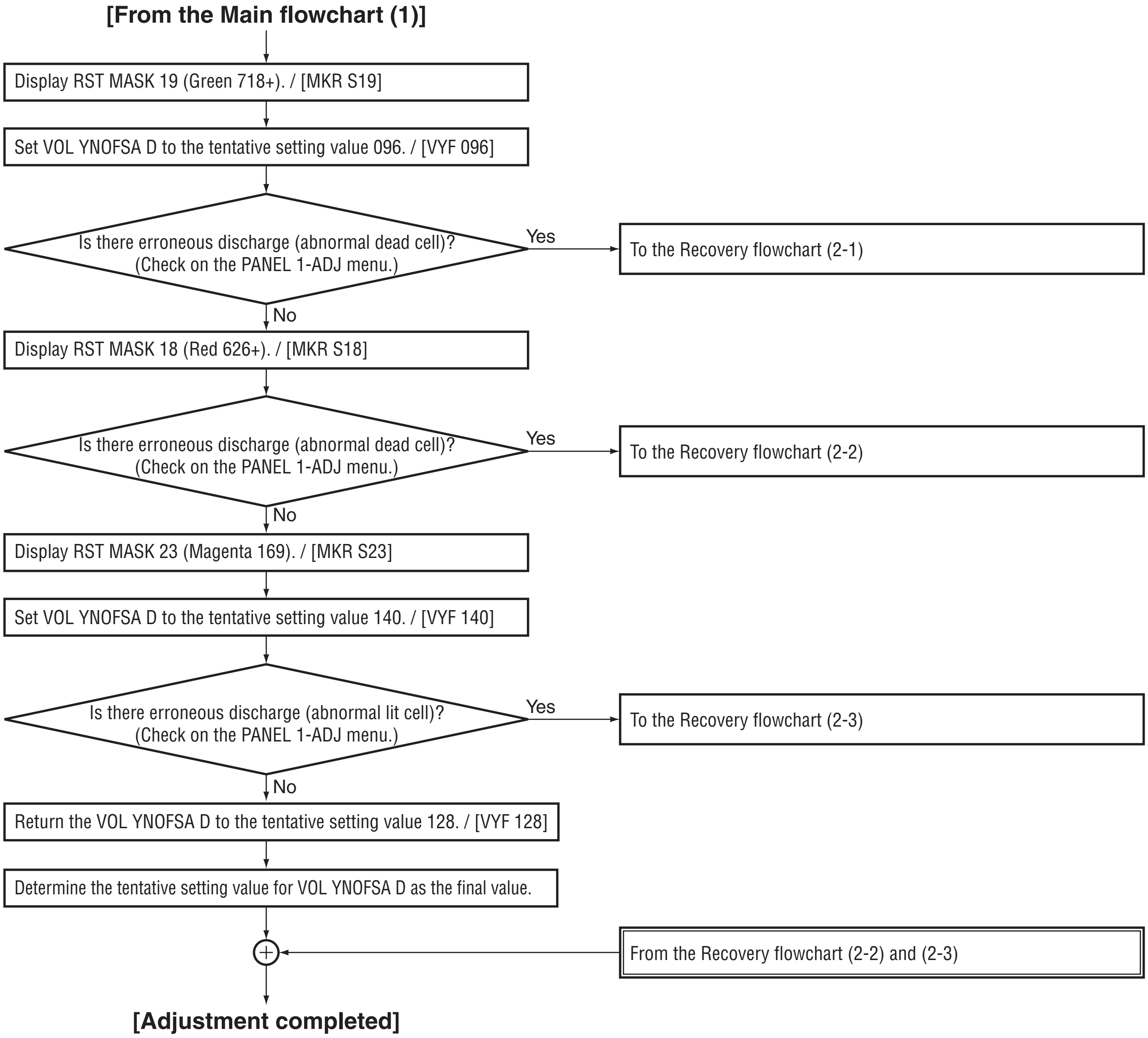
Note:
* When you perform the adjustment with RS232C commands, issue the following commands in addition.
* If the unit is shut down in the middle of performing the adjustment flowchart, reissuing of the command is required.

[PAV S00]	: To set panel drive mode to Factory
[VFQ S03]	: To set Drive Sequence to Video 60-Hz
[SQM S01]	: To set Drive Sequence to Video
[WBI S01]	: To temporarily reset the Panel WB adjustment value to default (WBI S00 cancels this setting.)
[PGR S00]	: To set the gamma R value to that for Factory mode
[PGG S00]	: To set the gamma G value to that for Factory mode
[PGB S00]	: To set the gamma B value to that for Factory mode
[DIZ S03]	: Dither ON, L dither ON, noise OFF.
[$1800000001]	: LUT mode ON

Main flowchart (1)...Checking VOL OFFSET


[From Preparation]
Display RST MASK 12 (Light blue). / [MKR S12]
Set VOL OFFSET to the tentative setting value minus 34. / [VOF ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-1)
No
Display RST MASK 10 (Pink). / [MKR S10]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-2)
No
Display RST MASK 02 (Red). / [MKR S02]
Set VOL OFFSET to the tentative setting value plus 67. / [VOF ***]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-3)
No
Display RST MASK 03 (Green). / [MKR S03]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (1-4)
No
Return VOL OFFSET to the tentative setting value. / [VOF ***]
Determine the tentative setting value for VOL OFFSET as the final value.
From the Recovery flowchart (1-2) and (1-4)
[To the Main flowchart (2)]

Main flowchart (2)...Checking VOL YNOFSA D

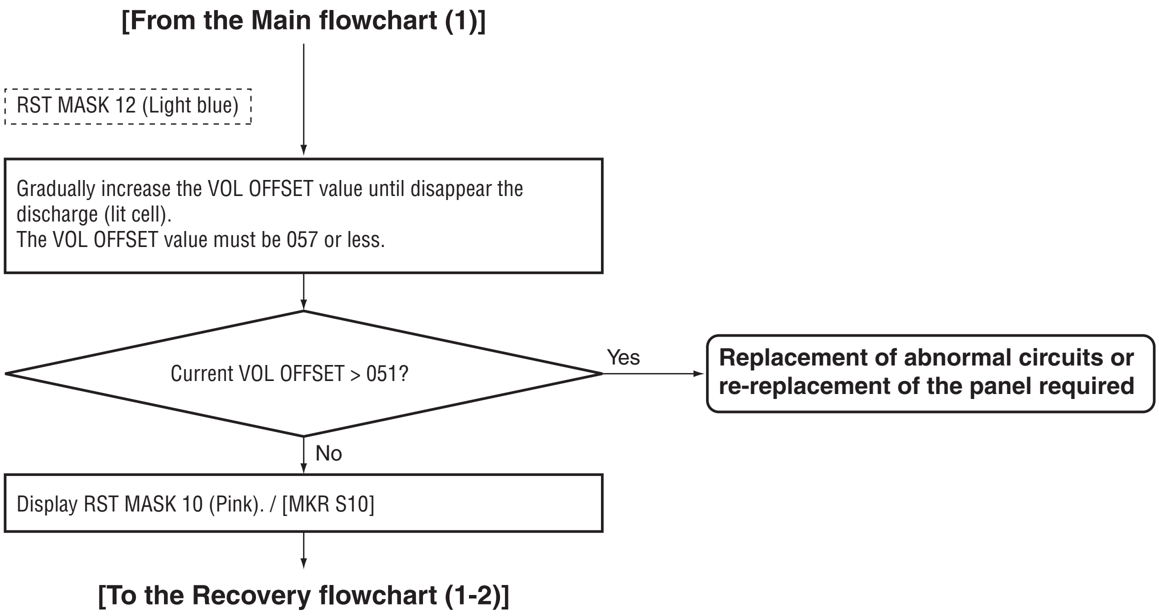

[From the Main flowchart (1)]
Display RST MASK 19 (Green 718+). / [MKR S19]
Set VOL YNOFSA D to the tentative setting value 096. / [VYF 096]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-1)
No
Display RST MASK 18 (Red 626+). / [MKR S18]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-2)
No
Display RST MASK 23 (Magenta 169). / [MKR S23]
Set VOL YNOFSA D to the tentative setting value 140. / [VYF 140]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
To the Recovery flowchart (2-3)
No
Return the VOL YNOFSA D to the tentative setting value 128. / [VYF 128]
Determine the tentative setting value for VOL YNOFSA D as the final value.
From the Recovery flowchart (2-2) and (2-3)
[Adjustment completed]

Note:
Make sure that the following values become the final setting values.

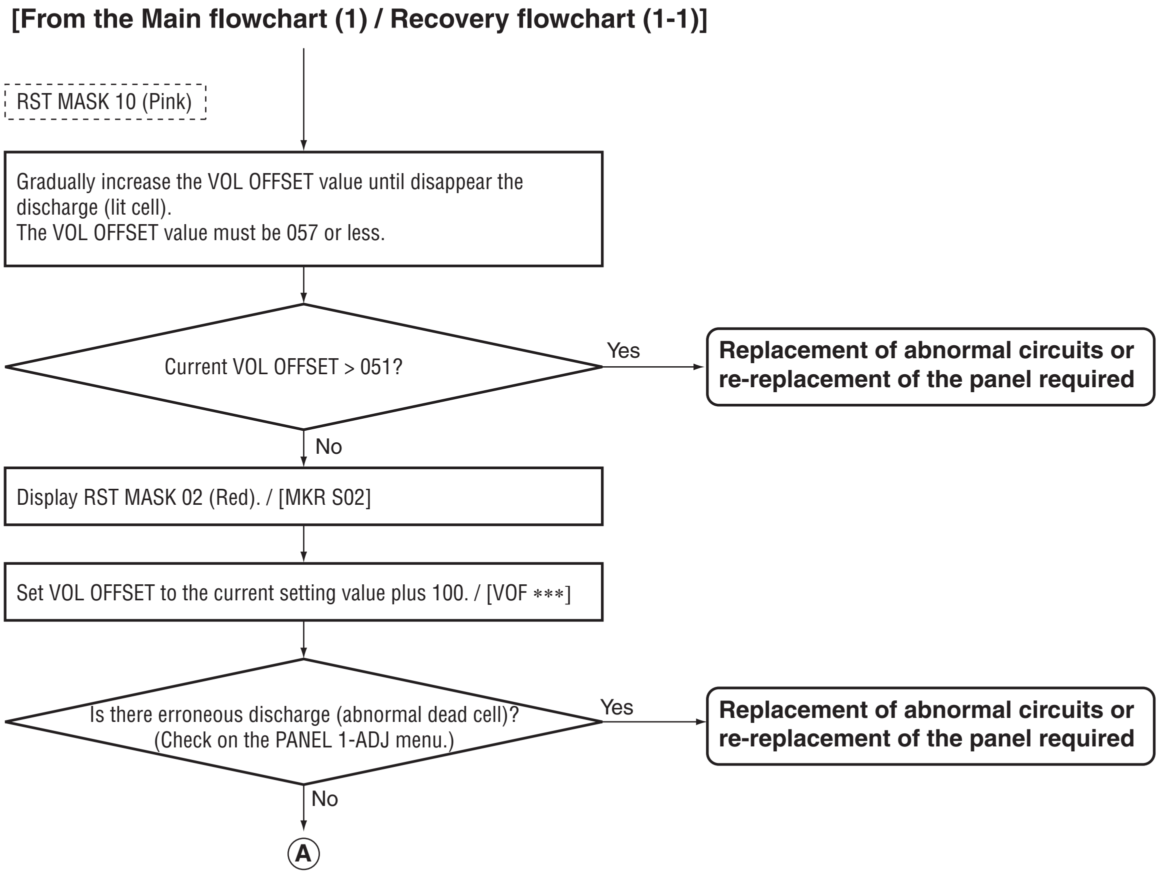
VOL SUS *1	VOL XPOSF2 *1
VOL OFFSET	VOL YNOFS1 D *1
VOL RST P *1	VOL YNOFS3 D *1
VOL XPOFS1 *1	VOL YNOFS4 D *1
	VOL YNOFS4 A

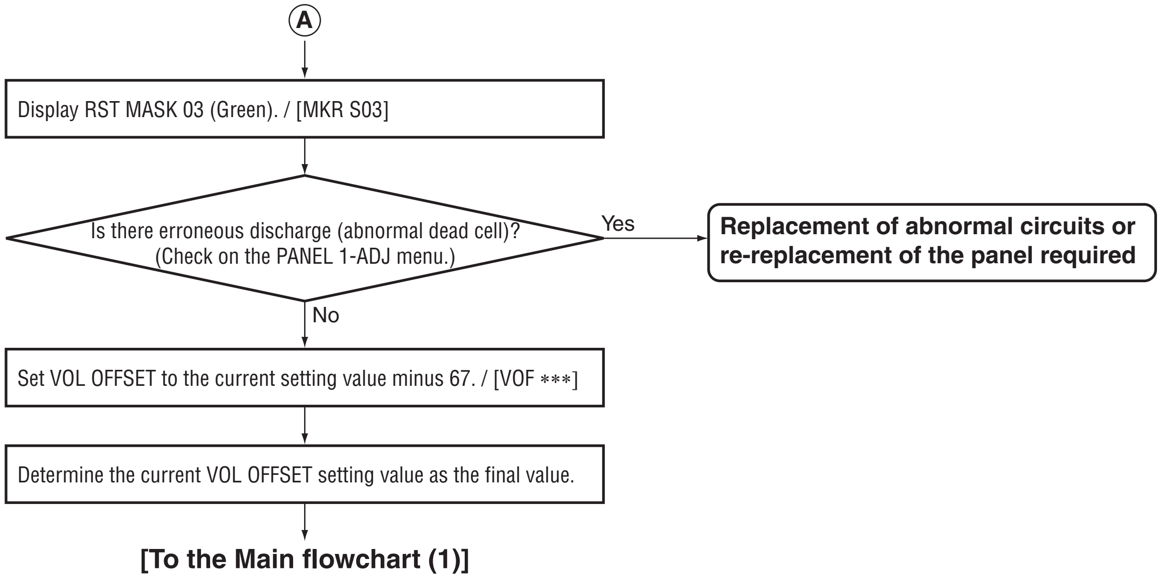
*1: The tentative setting value becomes the final value.

Recovery flowchart (1-1)...Changing the VOL OFFSET setting

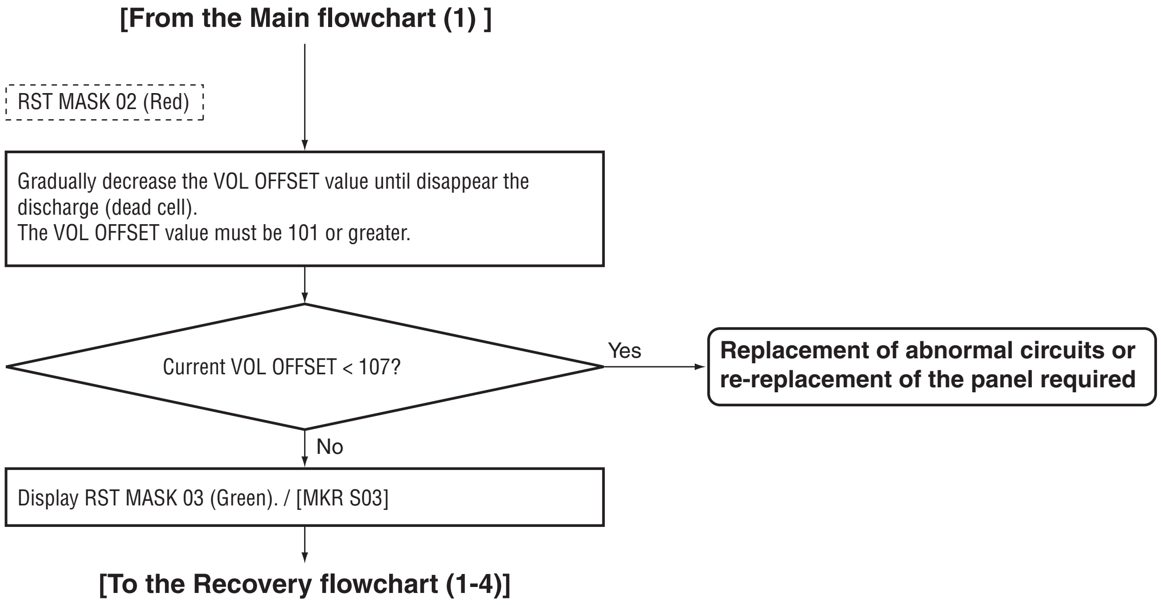

[From the Main flowchart (1)]
RST MASK 12 (Light blue)
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 057 or less.
Current VOL OFFSET > 051?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 10 (Pink). / [MKR S10]
[To the Recovery flowchart (1-2)]

Recovery flowchart (1-2)...Changing the VOL OFFSET setting

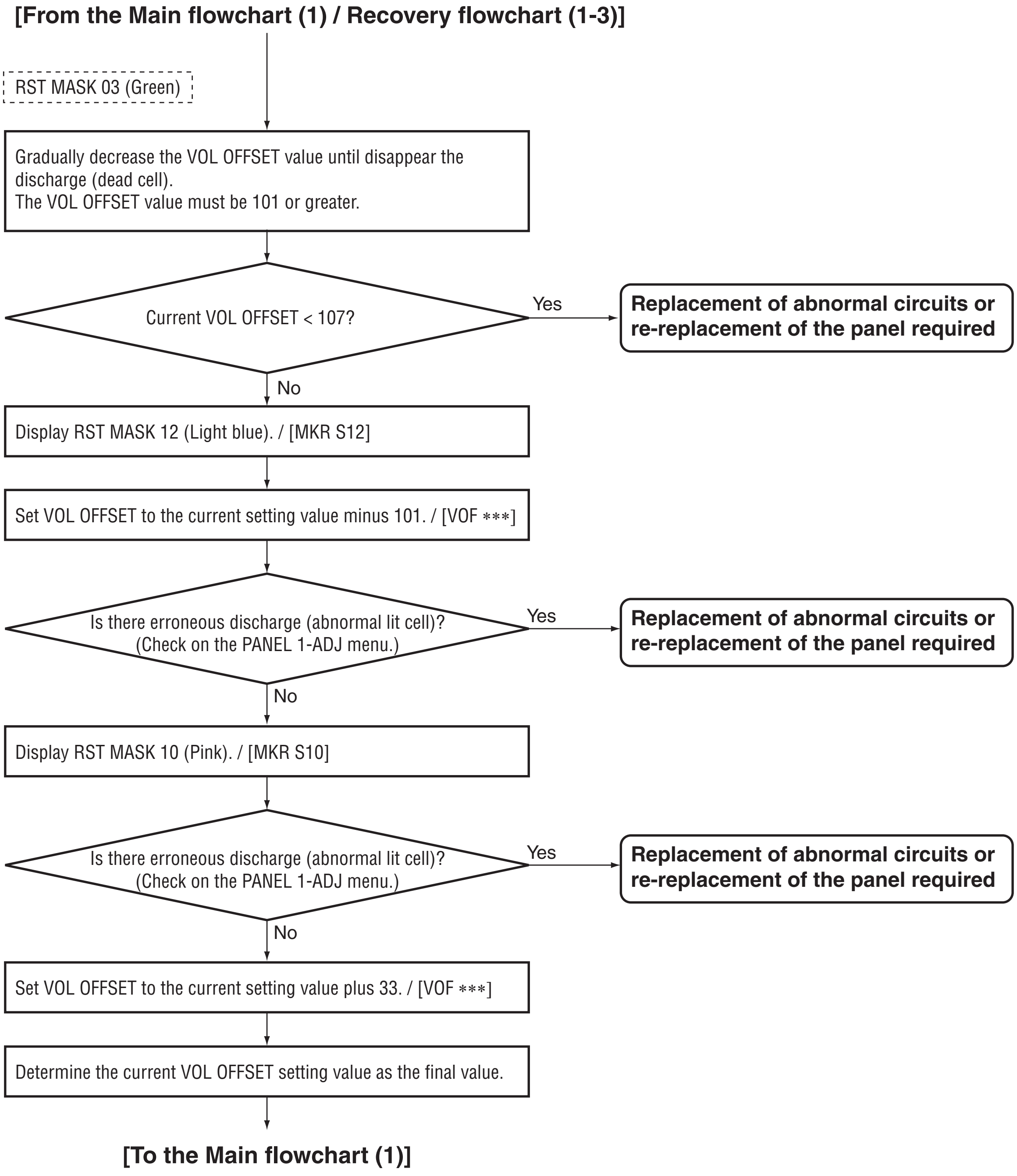

[From the Main flowchart (1) / Recovery flowchart (1-1)]
RST MASK 10 (Pink)
Gradually increase the VOL OFFSET value until disappear the discharge (lit cell).
The VOL OFFSET value must be 057 or less.
Current VOL OFFSET > 051?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 02 (Red). / [MKR S02]
Set VOL OFFSET to the current setting value plus 100. / [VOF ∗∗∗]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
A


A
Display RST MASK 03 (Green). / [MKR S03]
Is there erroneous discharge (abnormal dead cell)?
(Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL OFFSET to the current setting value minus 67. / [VOF ∗∗∗]
Determine the current VOL OFFSET setting value as the final value.
[To the Main flowchart (1)]

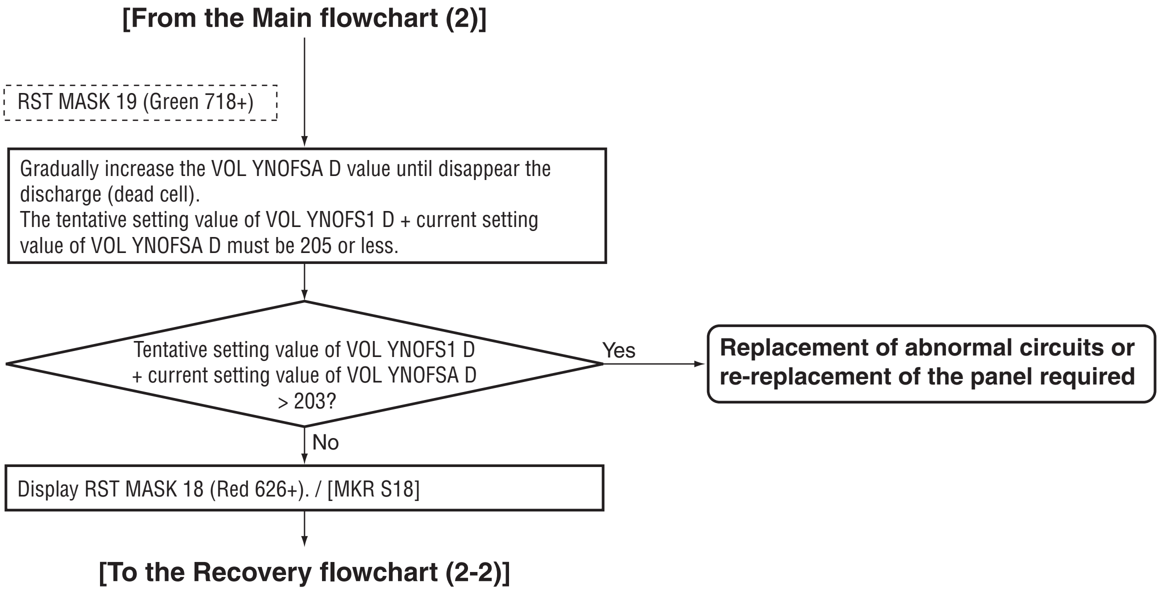
Recovery flowchart (1-3)...Changing the VOL OFFSET setting


[From the Main flowchart (1)]
RST MASK 02 (Red)
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 101 or greater.
Current VOL OFFSET < 107?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 03 (Green). / [MKR S03]
[To the Recovery flowchart (1-4)]

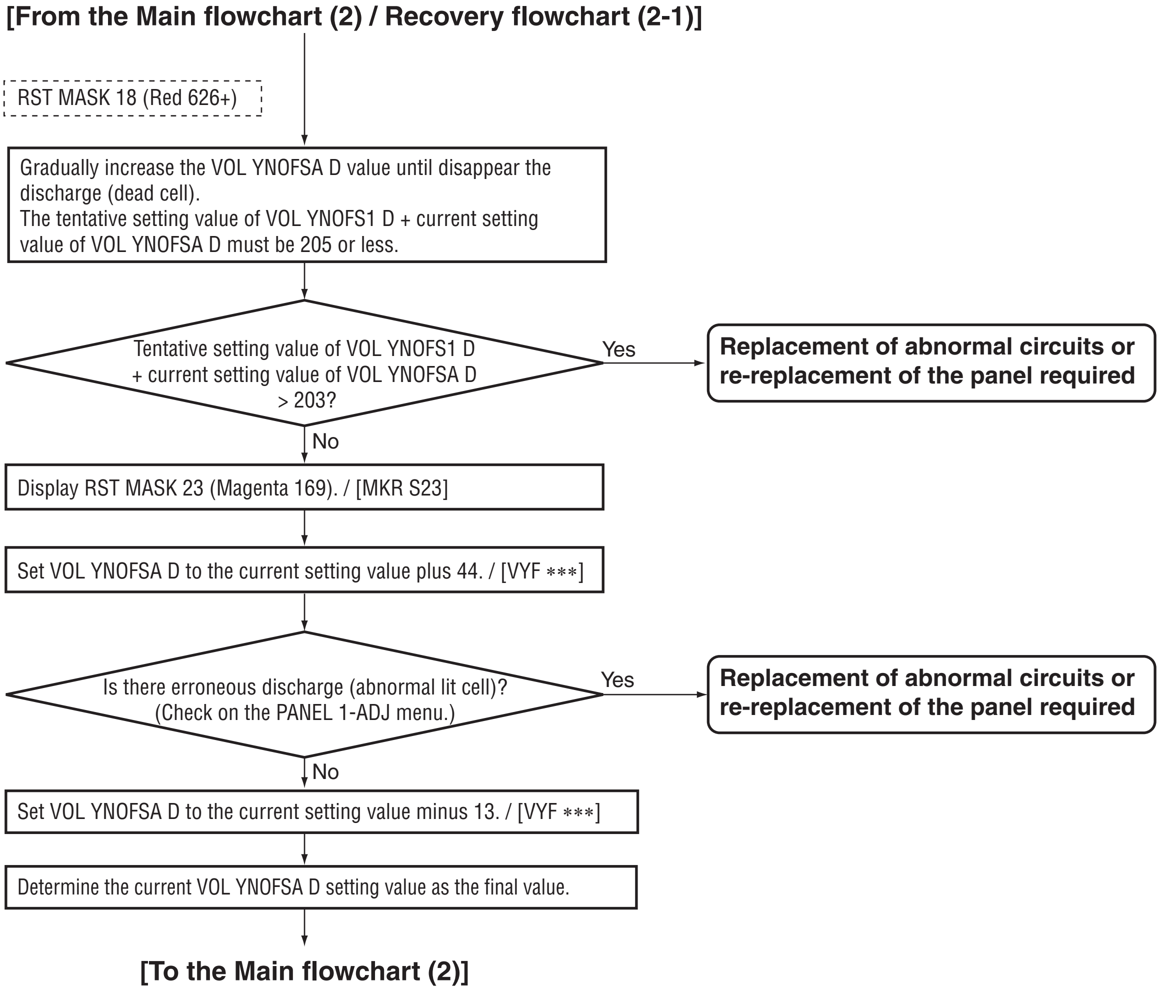
Recovery flowchart (1-4)...Changing the VOL OFFSET setting


[From the Main flowchart (1) / Recovery flowchart (1-3)]
RST MASK 03 (Green)
Gradually decrease the VOL OFFSET value until disappear the discharge (dead cell).
The VOL OFFSET value must be 101 or greater.
Current VOL OFFSET < 107?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 12 (Light blue). / [MKR S12]
Set VOL OFFSET to the current setting value minus 101. / [VOF ***]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 10 (Pink). / [MKR S10]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL OFFSET to the current setting value plus 33. / [VOF ***]
Determine the current VOL OFFSET setting value as the final value.
[To the Main flowchart (1)]

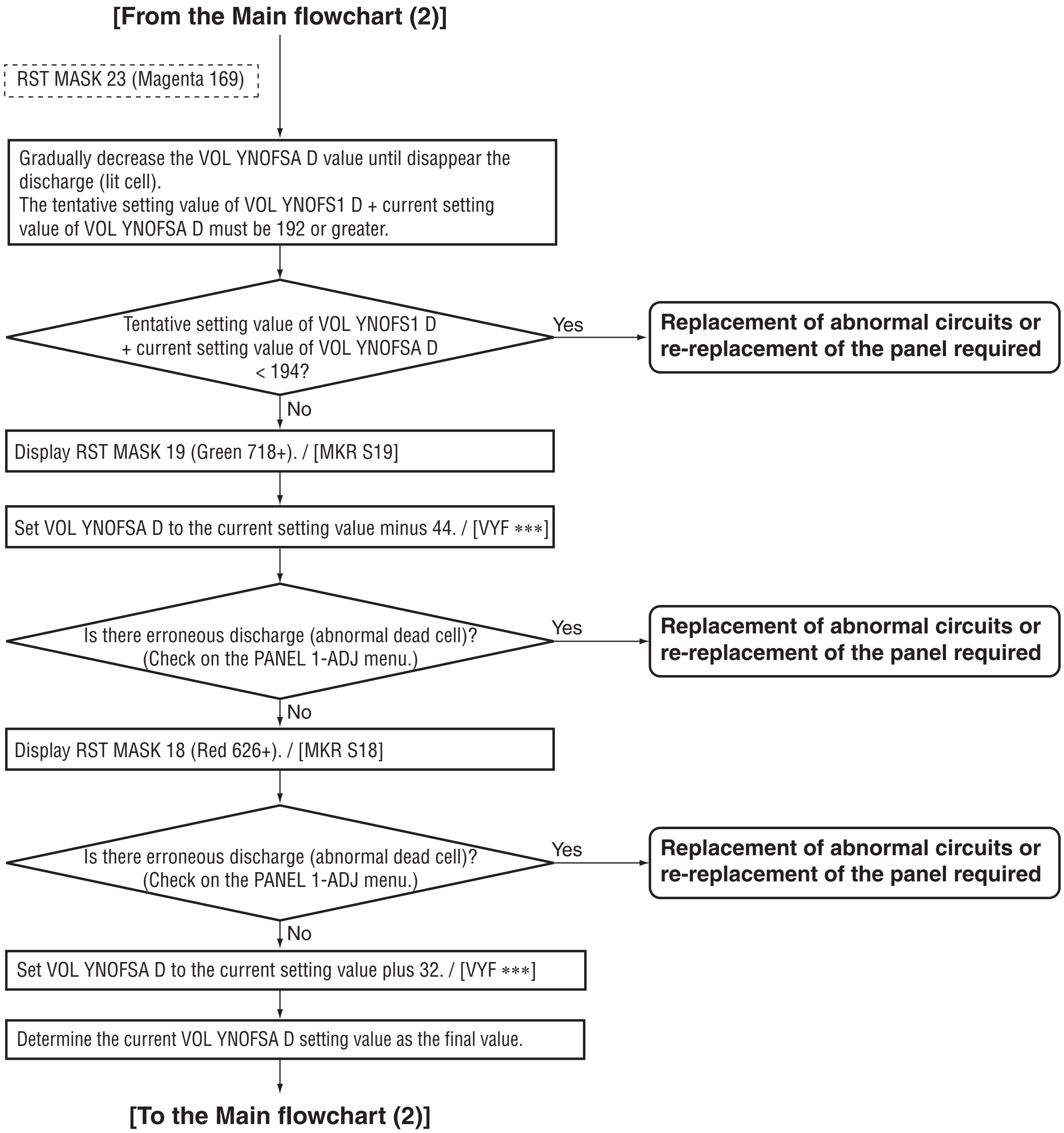
Recovery flowchart (2-1)...Changing the VOL YNOFSA D setting


[From the Main flowchart (2)]
RST MASK 19 (Green 718+)
Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 205 or less.
Tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D > 203?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 18 (Red 626+). / [MKR S18]
[To the Recovery flowchart (2-2)]

Recovery flowchart (2-2)...Changing the VOL YNOFSA D setting


[From the Main flowchart (2) / Recovery flowchart (2-1)]
RST MASK 18 (Red 626+)
Gradually increase the VOL YNOFSA D value until disappear the discharge (dead cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 205 or less.
Tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D > 203?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 23 (Magenta 169). / [MKR S23]
Set VOL YNOFSA D to the current setting value plus 44. / [VYF ∗∗∗]
Is there erroneous discharge (abnormal lit cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL YNOFSA D to the current setting value minus 13. / [VYF ∗∗∗]
Determine the current VOL YNOFSA D setting value as the final value.
[To the Main flowchart (2)]

Recovery flowchart (2-3)...Changing the VOL YNOFSA D setting


[From the Main flowchart (2)]
RST MASK 23 (Magenta 169)
Gradually decrease the VOL YNOFSA D value until disappear the discharge (lit cell).
The tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D must be 192 or greater.
Tentative setting value of VOL YNOFS1 D + current setting value of VOL YNOFSA D < 194?
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 19 (Green 718+). / [MKR S19]
Set VOL YNOFSA D to the current setting value minus 44. / [VYF ∗∗∗]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Display RST MASK 18 (Red 626+). / [MKR S18]
Is there erroneous discharge (abnormal dead cell)? (Check on the PANEL 1-ADJ menu.)
Yes
Replacement of abnormal circuits or re-replacement of the panel required
No
Set VOL YNOFSA D to the current setting value plus 32. / [VYF ∗∗∗]
Determine the current VOL YNOFSA D setting value as the final value.
[To the Main flowchart (2)]

8.5 ADJUSTMENT WHEN THE DRIVE ASSYS ARE REPLACED

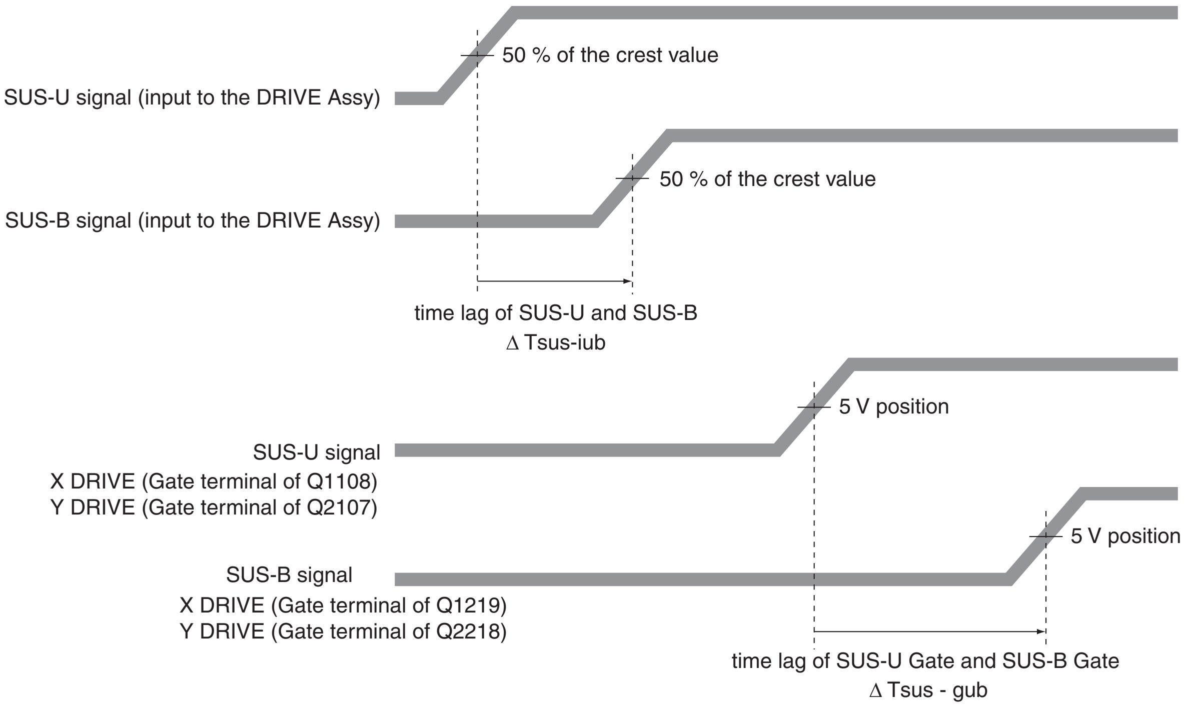
■ Waveform adjustments required when replacing the following parts of the X DRIVE and Y DRIVE Assys.

Assy Name	Ref No.	Part Name	Part Category	Remarks
X DRIVE Assy	IC1101	PS9818-1(P)	Photo Coupler	
	IC1104	TND307TD	FET Driver	
	IC1204	PS9818-2(P)	Photo Coupler	
	IC1209	TND307TD	FET Driver	
Y DRIVE Assy	IC2101	PS9818-1(P)	Photo Coupler	
	IC2103	TND307TD	FET Driver	
	IC2201	PS9818-1(P)	Photo Coupler	
	IC2203	TND307TD	FET Driver	

■ TIME LAG ADJUSTMENT OF THE CONTROL SIGNAL (SUS-B)

① Measure the time lag for the SUS-U signal to the SUS-B signal.
② Check the time lag for the SUS-B Gate signal to the SUS-U Gate siganl.
Adjust the variable control so that the time lag of Gate becomes " time lag of input signal + α ± 5 nsec."

Note: • Be sure to set the Drive to OFF for adjustment.
• For details on measuring points of waveform, see the figure below.



50 % of the crest value
SUS-U signal (input to the DRIVE Assy)
50 % of the crest value
SUS-B signal (input to the DRIVE Assy)
time lag of SUS-U and SUS-B
Δ Tsus-iub
5 V position
SUS-U signal
X DRIVE (Gate terminal of Q1108)
Y DRIVE (Gate terminal of Q2107)
5 V position
SUS-B signal
X DRIVE (Gate terminal of Q1219)
Y DRIVE (Gate terminal of Q2218)
time lag of SUS-U Gate and SUS-B Gate
Δ Tsus - gub

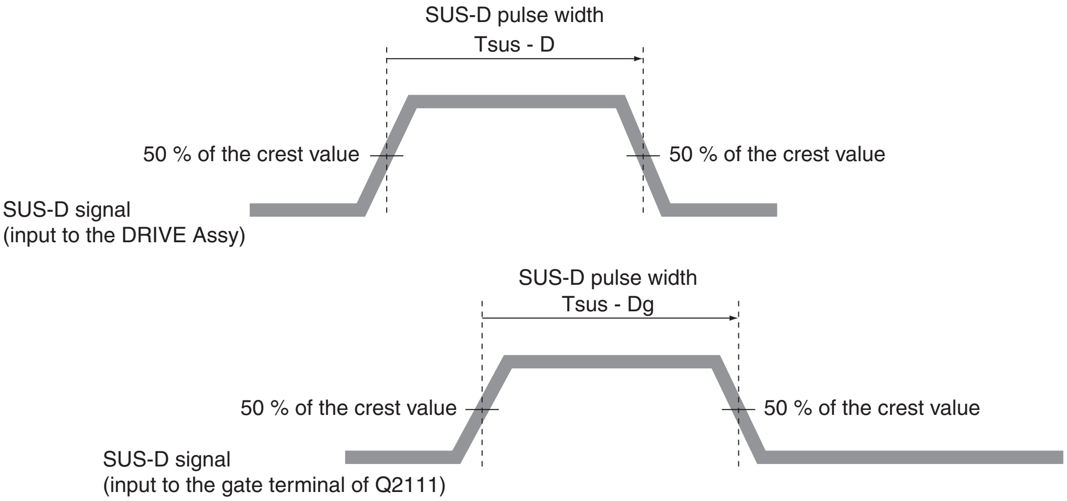
Time lag of SUS-U Gate and SUS-B Gate : Δ Tsus - gub
Adjust so that "Δ Tsus - gub = Δ Tsus - iub + α ± 5 nsec," using the variable controls shown in the table below:

Assy	VR	Value of α
X DRIVE Assy	VR1002	60 nsec
Y DRIVE Assy	VR2002	60 nsec

DELAY ADJUSTMENT OF THE CONTROL SIGNAL (SUS-D)

① Measure the pulse width of the SUS-D signal.
② Check the pulse width of the SUS-D input signal (gate terminal of Q2111).
Adjust the variable control so that the pulse width of the SUS-D input signal (gate terminal of Q2111) becomes the same pulse width ± 5 nsec as the SUS-D signal.

Note: • For details on measuring points of waveform, see the figure below.

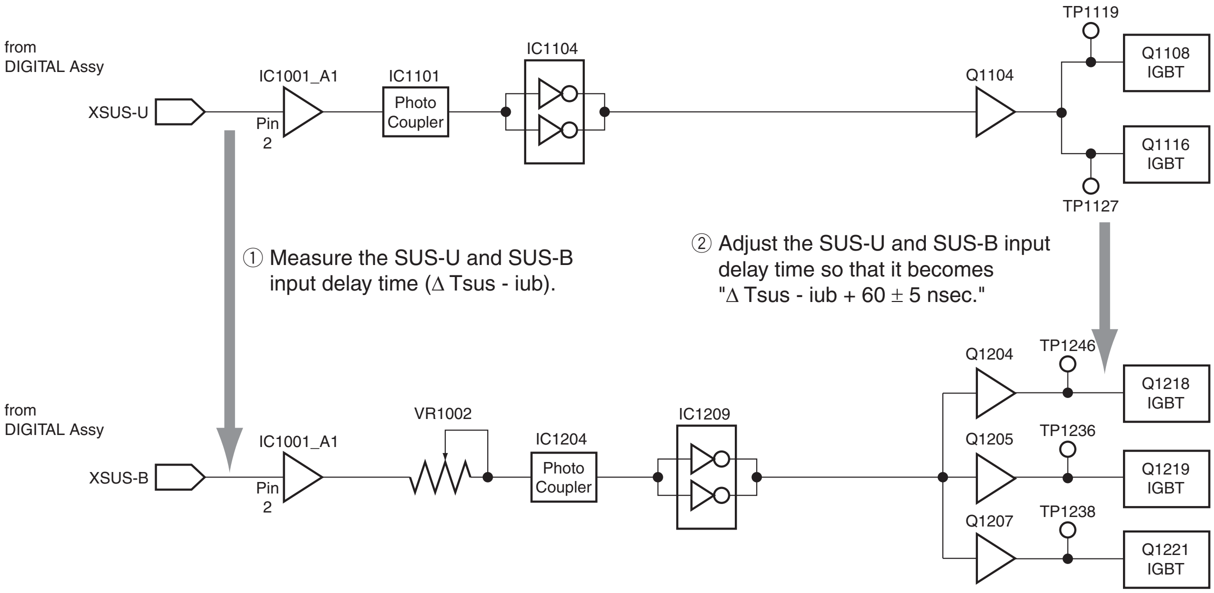

SUS-D pulse width
Tsus - D
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the DRIVE Assy)
SUS-D pulse width
Tsus - Dg
50 % of the crest value
50 % of the crest value
SUS-D signal
(input to the gate terminal of Q2111)

SUS-D pulse width: Tsus - Dg
Adjust so that "Tsus - Dg = Tsus - D ± 5 nsec," using the variable control shown in the table below:

Assy	VR
Y DRIVE Assy	VR2001

SUS-B ADJUSTMENT

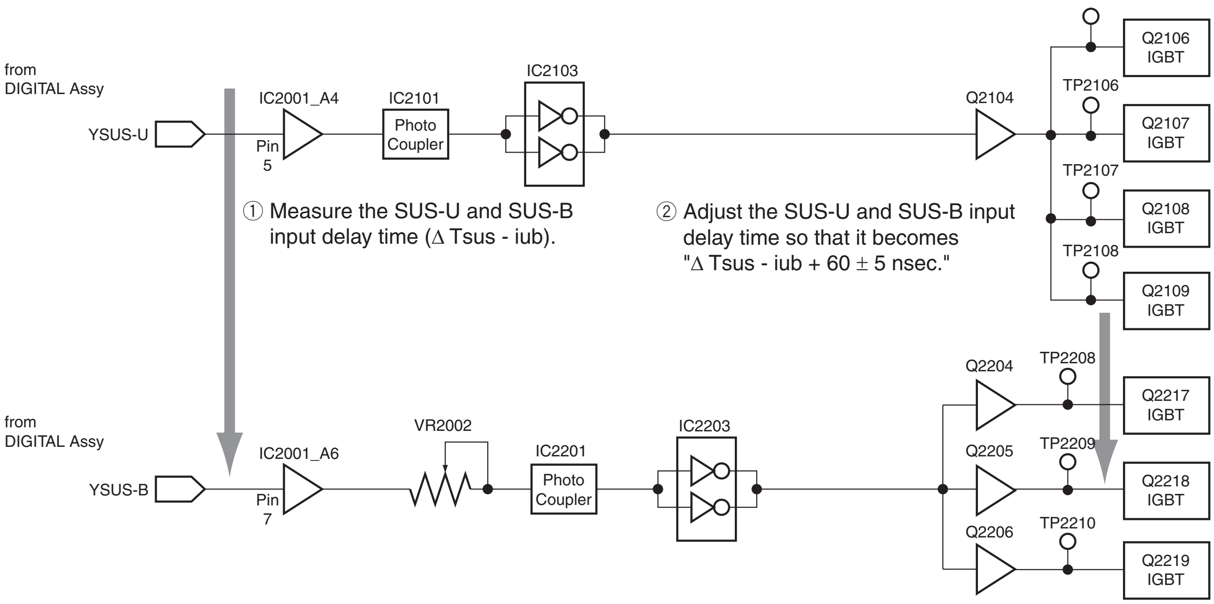
X DRIVE Assy


from
DIGITAL Assy
XSUS-U
IC1001_A1
Pin
2
IC1101
Photo
Coupler
IC1104
Q1104
TP1119
Q1108
IGBT
Q1116
IGBT
TP1127
from
DIGITAL Assy
XSUS-B
IC1001_A1
Pin
2
VR1002
IC1204
Photo
Coupler
IC1209
Q1204
TP1246
Q1218
IGBT
Q1205
TP1236
Q1219
IGBT
Q1207
TP1238
Q1221
IGBT

① Measure the SUS-U and SUS-B input delay time (∆ Tsus - iub).

② Adjust the SUS-U and SUS-B input delay time so that it becomes "∆ Tsus - iub + 60 ± 5 nsec."

Y DRIVE Assy


from
DIGITAL Assy
YSUS-U
IC2001_A4
Pin
5
IC2101
Photo
Coupler
IC2103
Q2104
TP2105
Q2106
IGBT
TP2106
Q2107
IGBT
TP2107
Q2108
IGBT
TP2108
Q2109
IGBT
from
DIGITAL Assy
YSUS-B
IC2001_A6
Pin
7
VR2002
IC2201
Photo
Coupler
IC2203
Q2204
TP2208
Q2217
IGBT
Q2205
TP2209
Q2218
IGBT
Q2206
TP2210
Q2219
IGBT

① Measure the SUS-U and SUS-B input delay time (∆ Tsus - iub).

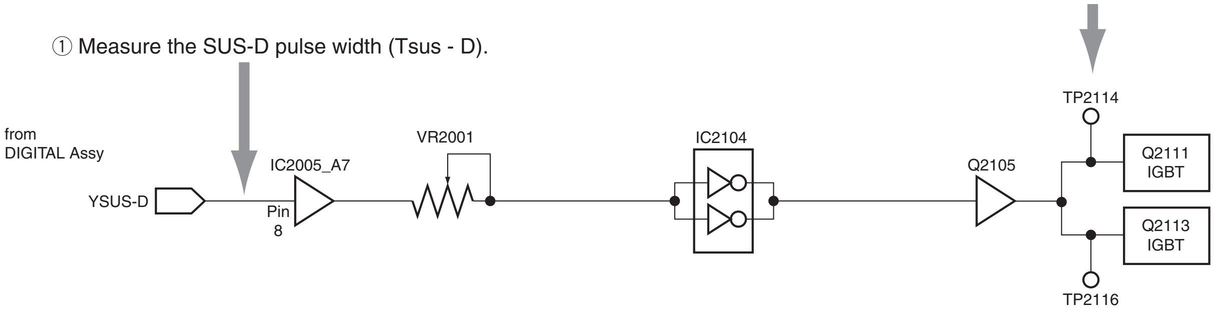
② Adjust the SUS-U and SUS-B input delay time so that it becomes "∆ Tsus - iub + 60 ± 5 nsec."

SUS-D ADJUSTMENT

Y DRIVE Assy

② Adjust the pulse width (Tsus - Dg) of the SUS-D input signal so that it becomes "Tsus-D ± 5 nsec."

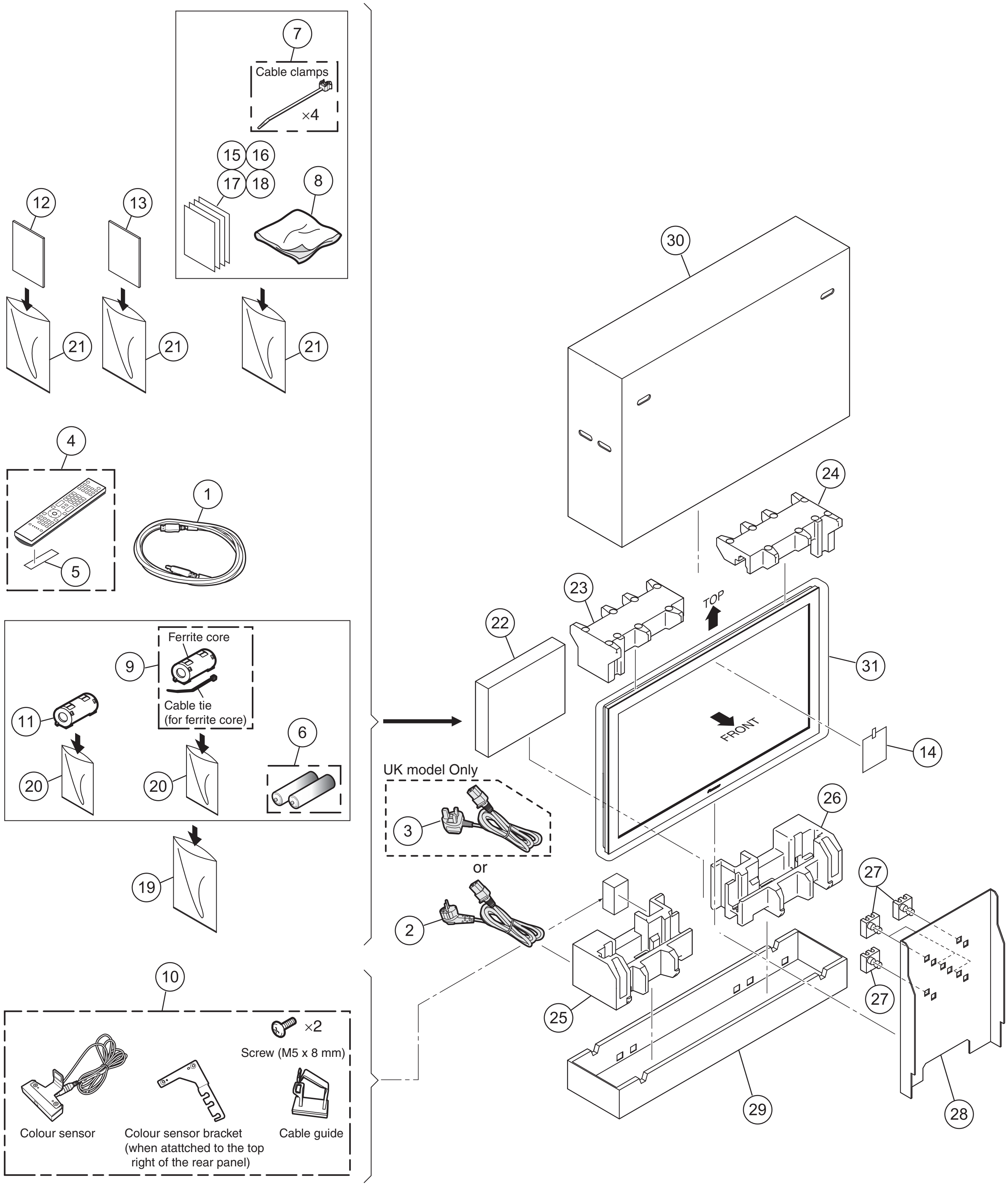
① Measure the SUS-D pulse width (Tsus - D).


from
DIGITAL Assy
YSUS-D
IC2005_A7
Pin
8
VR2001
IC2104
Q2105
TP2114
Q2111
IGBT
Q2113
IGBT
TP2116

9. EXPLODED VIEWS AND PARTS LIST

NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screws adjacent to ▼ mark on product are used for disassembly.*
● *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

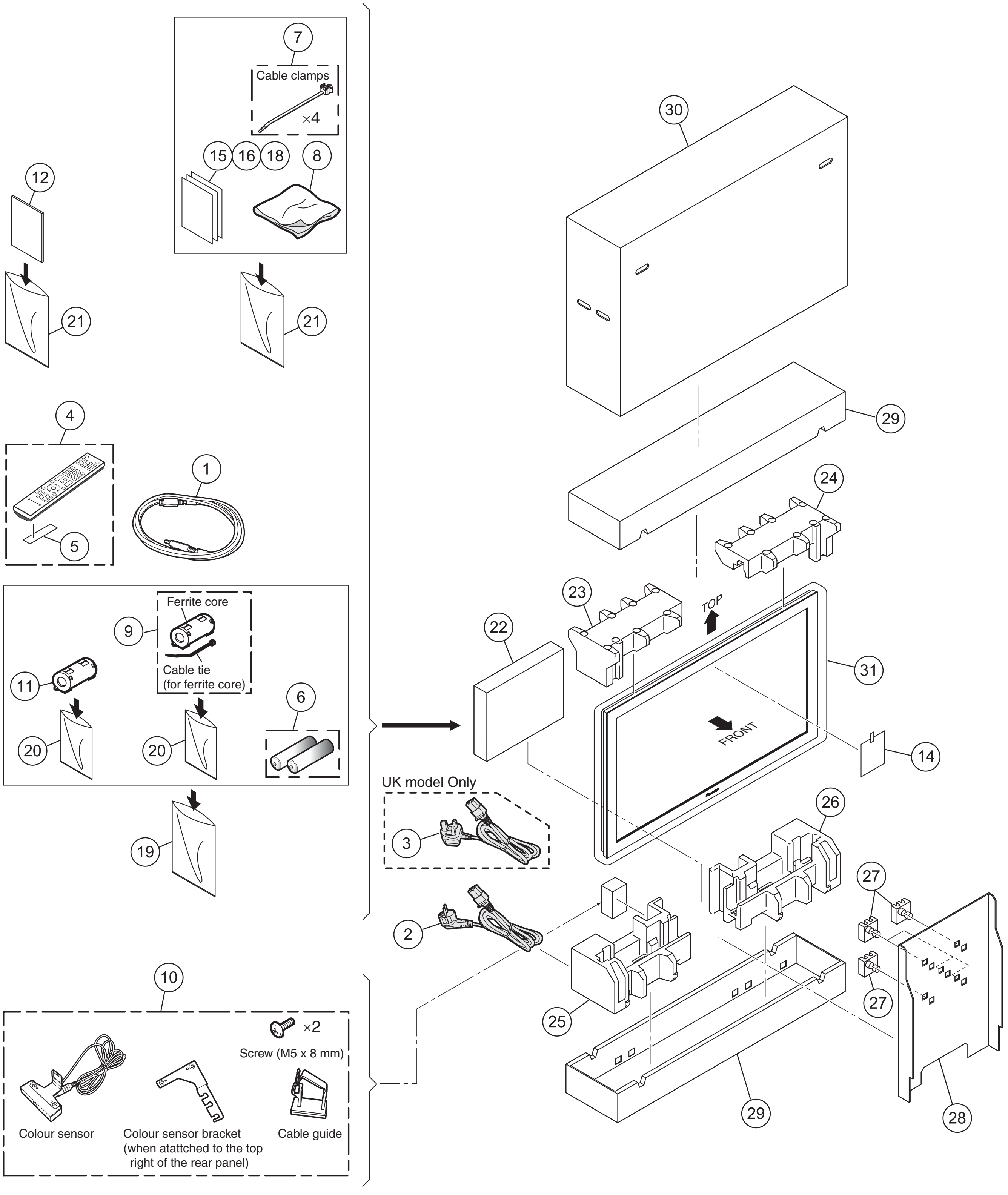
9.1 PACKING SECTION (KRP-600P/WYSIXK5)


7
Cable clamps
×4
15 16
17 18
8
12
13
21
21
21
4
5
1
9
Ferrite core
Cable tie
(for ferrite core)
11
6
20
20
19
10
×2
Screw (M5 x 8 mm)
Colour sensor
Colour sensor bracket
(when atattched to the top
right of the rear panel)
Cable guide
UK model Only
3
or
2
30
24
23
22
TOP
31
FRONT
14
26
27
27
25
29
28

PACKING SECTION PARTS LIST (KRP-600P/WYSIXK5)

Mark	No.	Description	Part No.
⚠	1	System Cable (2.9 m)	ADF1041
⚠	2	Power Cable	ADG1214
⚠	3	Power Cable	ADG1223
	4	Remote Control Unit	AXD1562
	5	Battery Cover (Black)	AZN2784
NSP	6	Alkaline Dry Cell Battery (LR6, AA)	VEM1045
	7	Binder Assy	AEC2158
	8	Cleaning Cloth	AED1285
⚠	9	Ferrite Core (L5321)	ATX1039
	10	Color Sensor Module	AXF1196
	11	Ferrite Core (L5320)	CTX1089
	12	Operating Instructions (Italian / Dutch / Spanish / Russian)	ARC1609
	13	Operating Instructions (English / French / German)	ARE1494
	14	Caution Card	ARM1310
	15	Cleaning Caution PTK	ARM1311
	16	Ferrite Core Info.	ARM1396
	17	Block Diagram (600M)	ARY1211
NSP	18	Warranty Card EU	ARY7129
NSP	19	Vinyl Pouch	AHG-195
	20	Vinyl Bag	AHG1337
NSP	21	Vinyl Bag	AHG1340
	22	Accessory Box	AHC1122
	23	Pad (6095E T-L)	AHA2747
	24	Pad (6095E T-R)	AHA2748
	25	Pad (6095E B-L)	AHA2749
	26	Pad (6095E B-R)	AHA2750
	27	Pad (6095E C)	AHA2751
	28	Reinforce Carton (6095E)	AHC1121
	29	Under Carton (6095E)	AHD3691
	30	Upper Carton (60P EU)	AHD3728
	31	Mirror Mat	AHG1385

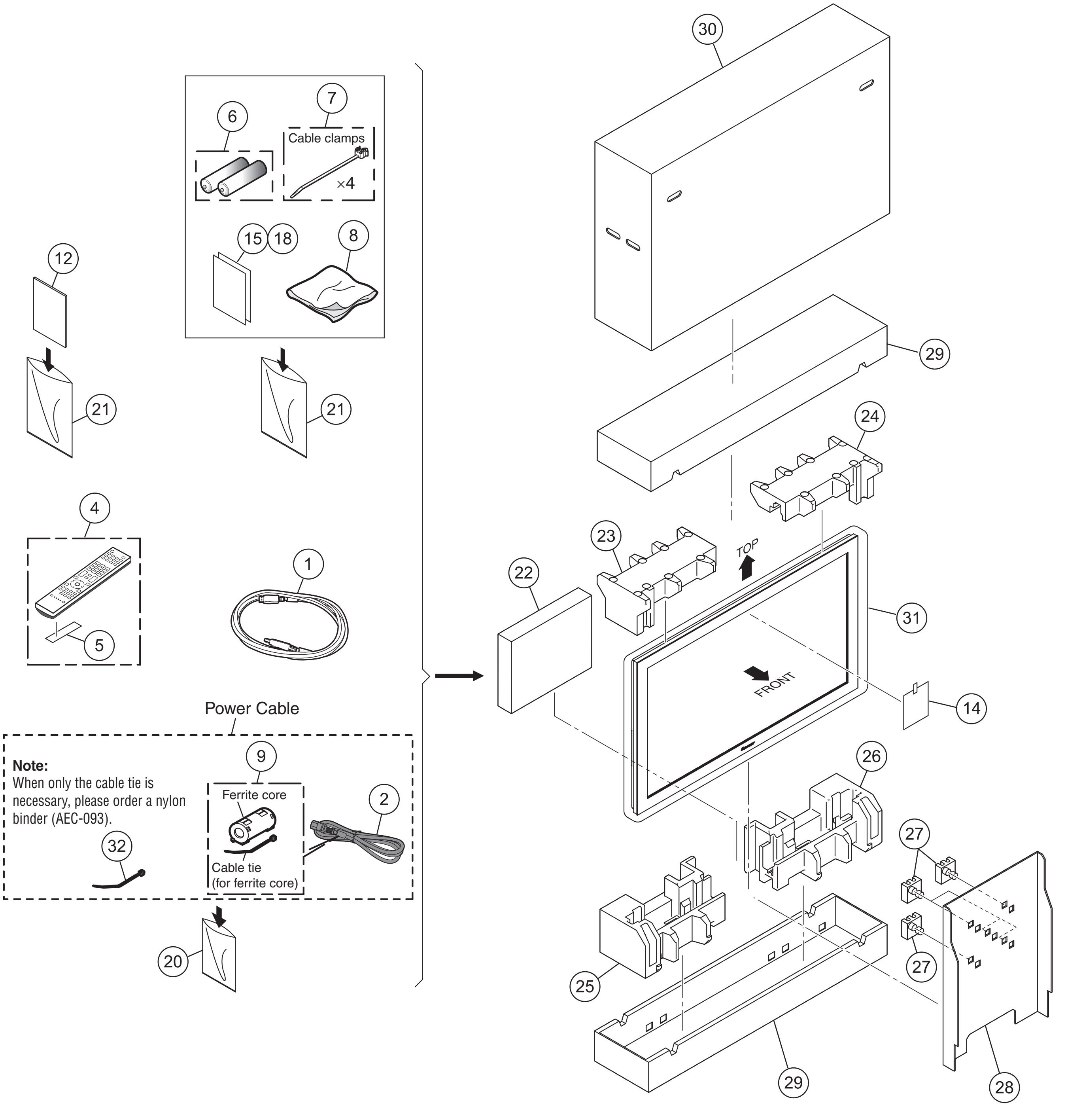
9.2 PACKING SECTION (KRP-600P/WYS5)


7
Cable clamps
×4
15
16
18
8
12
21
21
30
29
4
1
5
24
23
22
TOP
31
9
Ferrite core
Cable tie
(for ferrite core)
11
6
20
20
FRONT
14
UK model Only
3
26
19
27
2
27
25
10
×2
Screw (M5 x 8 mm)
29
28
Colour sensor
Colour sensor bracket
(when atattched to the top
right of the rear panel)
Cable guide

PACKING SECTION PARTS LIST (KRP-600P/WYS5)

Mark	No.	Description	Part No.
⚠	1	System Cable (2.9 m)	ADF1041
⚠	2	Power Cable	ADG1214
⚠	3	Power Cable	ADG1223
	4	Remote Control Unit	AXD1562
	5	Battery Cover (Black)	AZN2784
NSP	6	Alkaline Dry Cell Battery (LR6, AA)	VEM1045
	7	Binder Assy	AEC2158
	8	Cleaning Cloth	AED1285
⚠	9	Ferrite Core (L5321)	ATX1039
	10	Color Sensor Module	AXF1196
	11	Ferrite Core (L5320)	CTX1089
	12	Operating Instructions (Russian)	ARC1619
	13	• • • • •	
	14	Caution Card	ARM1232
	15	Cleaning Caution (11L)	ARM1283
	16	Ferrite Core Info.	ARM1395
	17	• • • • •	
NSP	18	Warranty Card EU	ARY7127
NSP	19	Vinyl Pouch	AHG-195
	20	Vinyl Bag	AHG1337
NSP	21	Vinyl Bag	AHG1340
	22	Accessory Box	AHC1083
	23	Pad (6095 T-L)	AHA2752
	24	Pad (6095 T-R)	AHA2753
	25	Pad (6095 B-L)	AHA2754
	26	Pad (6095 B-R)	AHA2755
	27	Center Pad	AHA2687
	28	Reinforce Carton (6095)	AHC1123
	29	Under Carton (6095)	AHD3693
	30	Upper Carton (60P EUJ)	AHD3729
	31	Mirror Mat	AHG1385

9.3 PACKING SECTION (KRP-600P/WA5)

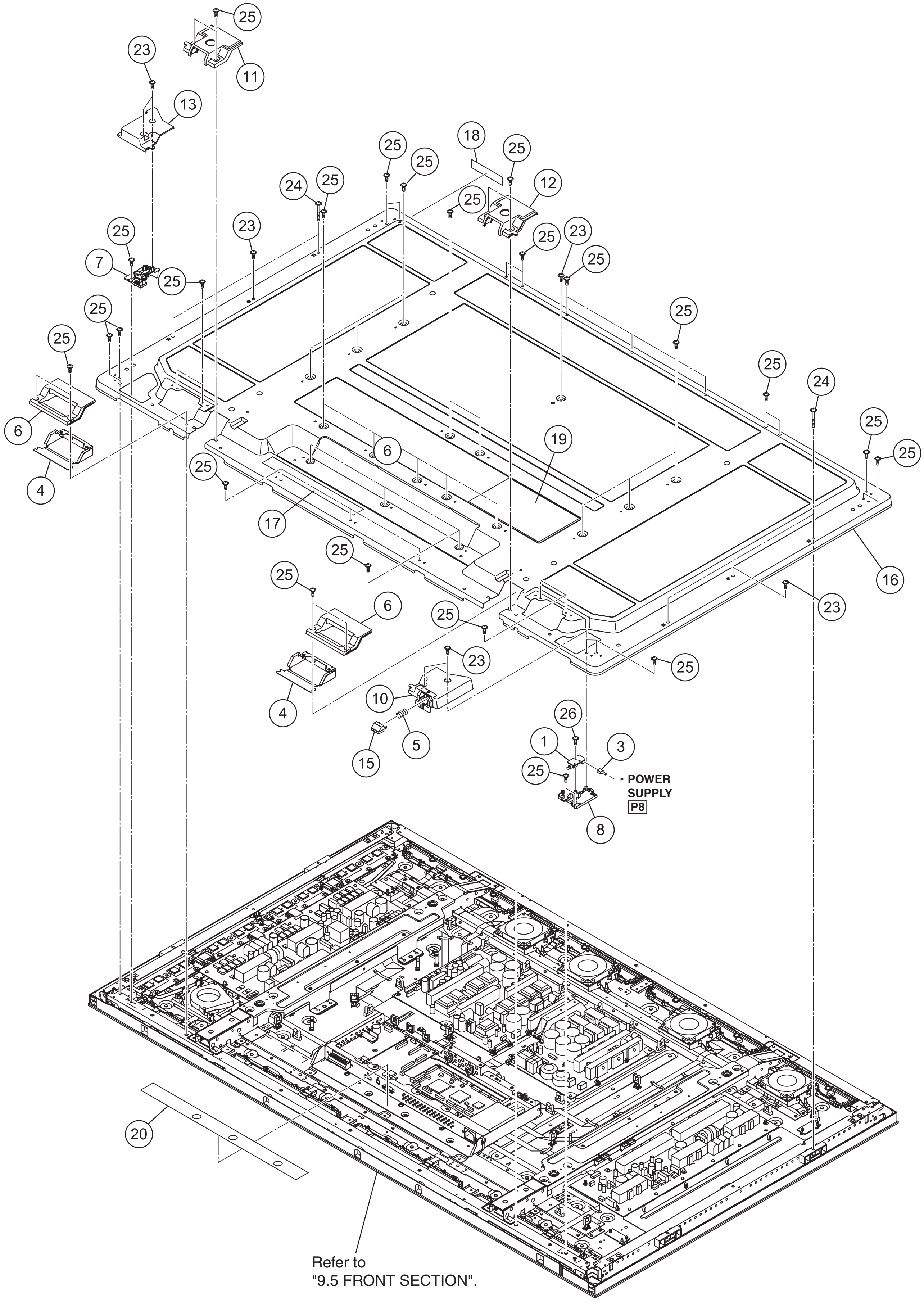

30
6
7
Cable clamps
×4
15
18
8
12
29
21
21
24
4
23
TOP
1
22
31
5
FRONT
14
Power Cable
9
26
Ferrite core
2
32
27
Cable tie
(for ferrite core)
27
20
25
29
28

Note:
When only the cable tie is necessary, please order a nylon binder (AEC-093).

PACKING SECTION PARTS LIST (KRP-600P/WA5)

Mark	No.	Description	Part No.
⚠	1	System Cable (2.9 m)	ADF1041
⚠	2	AC Power Cord	ADG1209
	3	• • • • •	
	4	Remote Control Unit	AXD1569
	5	Battery Cover (Black)	AZN2784
NSP	6	Dry Cell Battery (R6, AA)	VEM1031
	7	Binder Assy	AEC2158
	8	Cleaning Cloth	AED1285
⚠	9	Ferrite Core (L5321)	ATX1039
	10	• • • • •	
	11	• • • • •	
	12	Operating Instructions (Simp-Chinese)	ARC1610
	13	• • • • •	
	14	Caution Card (PC)	ARM1302
	15	Cleaning Caution (11L)	ARM1283
	16	• • • • •	
	17	• • • • •	
NSP	18	Warranty Card	ARY1161
	19	• • • • •	
	20	Vinyl Bag	AHG1336
NSP	21	Vinyl Bag	AHG1340
	22	Accessory Box	AHC1083
	23	Pad (6095 T-L)	AHA2752
	24	Pad (6095 T-R)	AHA2753
	25	Pad (6095 B-L)	AHA2754
	26	Pad (6095 B-R)	AHA2755
	27	Center Pad	AHA2687
	28	Reinforce Carton (6095)	AHC1123
	29	Under Carton (6095)	AHD3693
	30	Upper Carton (60P C)	AHD3731
	31	Mirror Mat	AHG1385
	32	Nylon Binder	AEC-093

9.4 REAR SECTION


25
23
11
13
18
25
25
25
24
25
12
25
23
25
23
25
7
25
25
25
25
25
6
4
6
19
25
25
24
25
25
17
25
16
25
6
23
25
25
4
23
10
25
26
5
1
3
15
25
POWER SUPPLY P8
8
20
Refer to "9.5 FRONT SECTION".

(1) REAR SECTION PARTS LIST

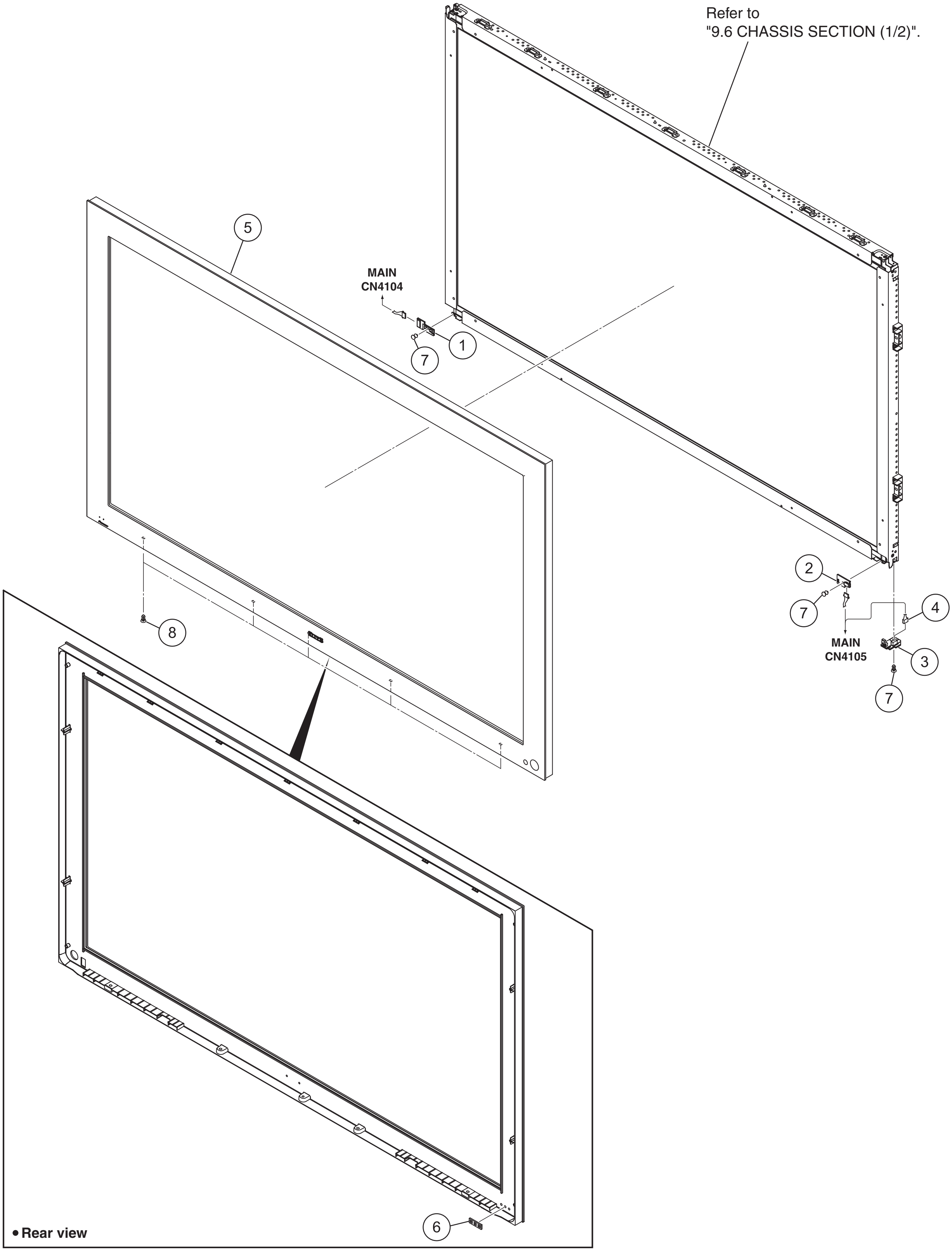
Mark	No.	Description	Part No.
	1	POW SW Assy	AWW1395
	2	• • • • •	
	3	3P Housing Wire (J103)	ADX3655
	4	Under Grip Shield	ANG3169
	5	Coil Spring	ABH1125
	6	Under Grip	AMR3811
	7	Operation Button Holder	AMR3815
	8	Power Button Support	AMR3878
	9	• • • • •	
	10	Power Button Case	AAK2938
	11	Stand Cover (L)	AMR3876
	12	Stand Cover (R)	AMR3804
	13	OP. Button Cover (S)	AMR3882
	14	• • • • •	
	15	Power Button (508F)	AAD4152
⚠	16	Rear Case Assy (60M)	ANE1689
NSP	17	Name Label	See Contrast table (2)
	18	Serial Sheet	AAX3143
	19	Caution Label	See Contrast table (2)
	20	Terminal Label	See Contrast table (2)
	21	• • • • •	
	22	• • • • •	
	23	Screw (3 x 8 P)	ABA1379
	24	Screw (3 x 25 P)	ABA1380
	25	N Grip Screw (M3 x 6)	ABA1381
	26	Screw	APZ30P080FTB

(2) CONTRAST TABLE

KRP-600P/WYSIXK5, WYS5 and WA5 are constructed the same except for the following:

Mark	No.	Symbol and Description	KRP-600P /WYSIXK5	KRP-600P /WYS5	KRP-600P /WA5
NSP	17	Name Label (60P-EU)	AAL3066	Not used	Not used
NSP	17	Name Label (60P-EUJ)	Not used	AAL3067	Not used
NSP	17	Name Label (60P-C)	Not used	Not used	AAL3069
	19	Caution Label (60M-EU)	AAX3592	AAX3592	Not used
	19	Caution Label (60P-C)	Not used	Not used	AAX3613
	20	Terminal Label (60S-EU)	AAX3597	AAX3597	Not used
	20	Terminal Label (60S-CH)	Not used	Not used	AAX3605

9.5 FRONT SECTION

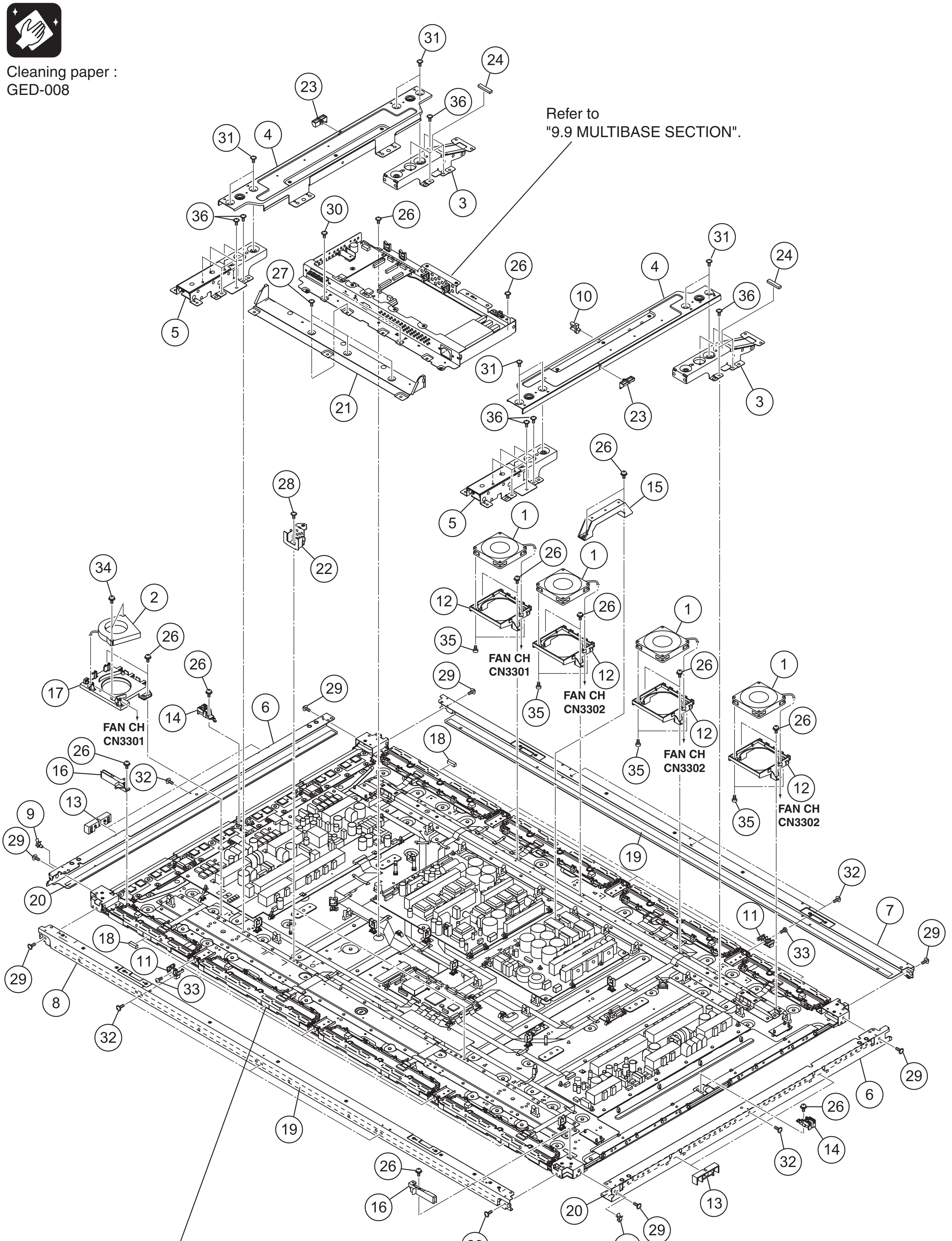

Refer to
"9.6 CHASSIS SECTION (1/2)".
5
MAIN
CN4104
1
7
2
7
4
MAIN
CN4105
3
7
8
6
• Rear view

FRONT SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	LED Assy	AWW1399
	2	RLS Assy	AWW1401
	3	IR Assy	AWW1400
	4	6/3/3P Housing Wire (J117)	ADX3705
	5	Front Bezel (60MSEP)	AMB3109
	6	Blind Cushion (508F)	AEB1479
	7	Nylon Rivet	AEC1671
	8	Rivet (Plastic)	AEC1877

9.6 CHASSIS SECTION (1/2)

Cleaning paper :
GED-008


31
24
23
36
31
4
3
36
30
26
31
24
4
26
36
27
10
5
31
3
21
36
23
26
28
15
5
1
22
26
1
34
2
12
26
26
35
1
FAN CH
CN3301
12
26
17
26
29
FAN CH
CN3302
29
35
14
6
FAN CH
CN3301
18
12
26
1
35
FAN CH
CN3302
26
16
32
12
13
35
FAN CH
CN3302
9
29
19
32
20
7
11
29
18
33
29
11
33
8
32
29
6
26
19
14
32
26
13
16
20
29
29
9
29
B
C
D
E
F

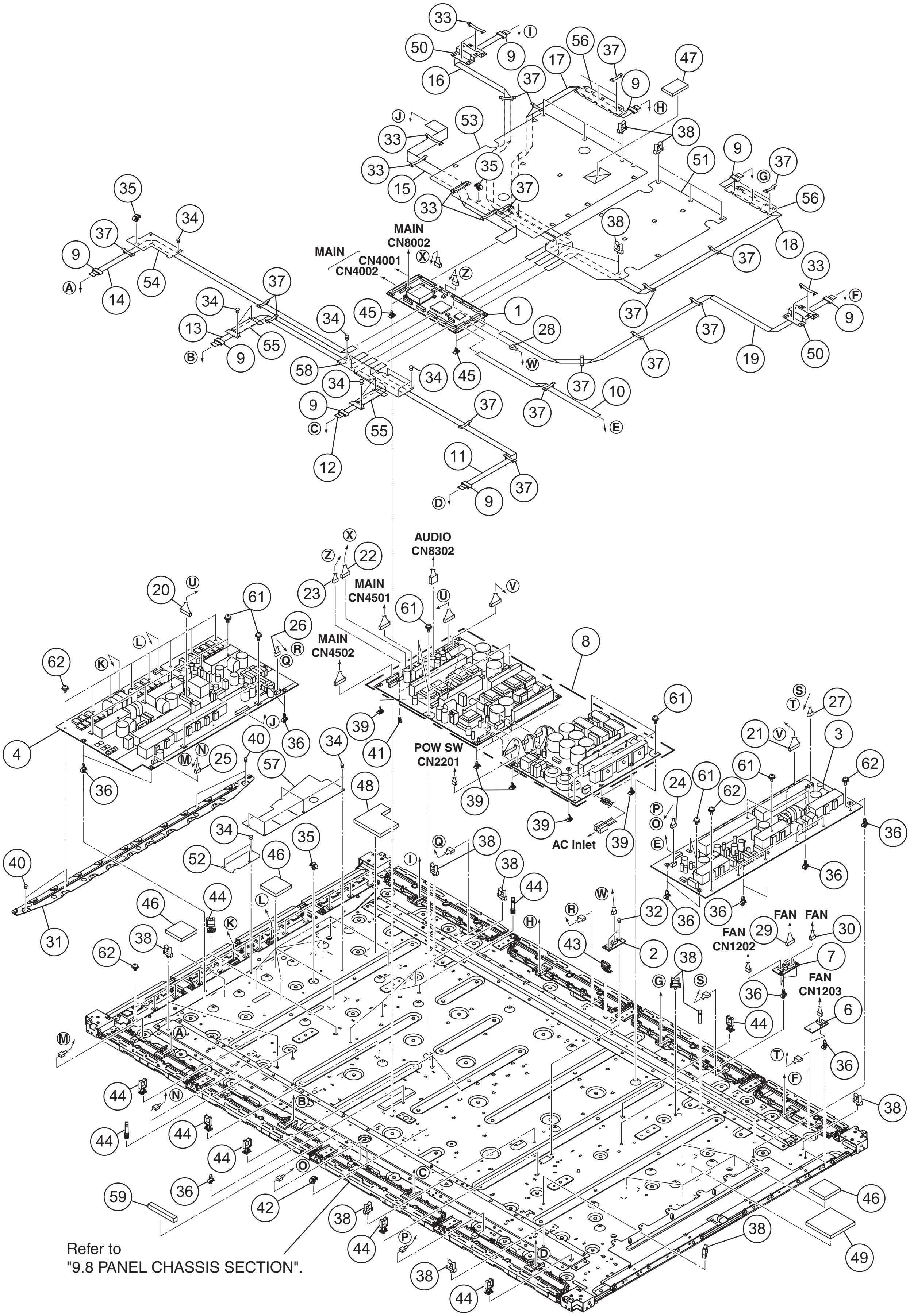
Refer to
"9.9 MULTIBASE SECTION".

Refer to
"9.7 CHASSIS SECTION (2/2)".

CHASSIS SECTION (1/2) PARTS LIST

Mark	No.	Description	Part No.
⚠	1	DC FAN Motor 80 x 15L	AXM1065
⚠	2	DC FAN Motor 75 x 12T	AXM1066
	3	Top Frame (60M)	ANG3166
	4	Center Frame (60M)	ANG3165
	5	Sub Frame Assy (60M)	ANA2162
⚠	6	F. Chassis V Assy (60M)	ANA2163
⚠	7	F. Chassis HT Assy (60M)	ANA2167
⚠	8	F. Chassis HB (60M)	ANA2166
	9	Wire Clip	AEC1948
	10	Reuse Wire Saddle	AEC2134
	11	F. Chassis H Guide	AMR3756
	12	FAN Bracket	AMR3805
	13	Front Bezel Support	AMR3806
	14	Support Bracket V	AMR3807
	15	Rear Case Support	AMR3808
	16	Coner Spacer	AMR3818
	17	FAN Bracket Y	AMR3885
⚠	18	Address Gasket	ANK1947
⚠	19	Front Gasket H	ANK1960
⚠	20	Front Gasket V	ANK1961
	21	Under Cover	ANG3168
	22	Under Cover Bracket	ANG3195
	23	Drive Wire Saddle	AMR3850
	24	Cushion	AEB1503
	25	• • • • •	
	26	Screw	ABA1351
	27	N Grip Screw (M3 x 6)	ABA1381
	28	Screw	ABZ30P060FTB
	29	Screw	ABZ30P080FTC
	30	Screw	AMZ30P060FTB
	31	Screw	AMZ40P080FTB
	32	Screw	APZ30P080FTB
	33	Screw	BMZ30P080FTB
	34	Screw	BPZ30P080FTB
	35	Screw	PPZ50P100FTB
	36	Screw	TBZ40P060FTC

9.7 CHASSIS SECTION (2/2)

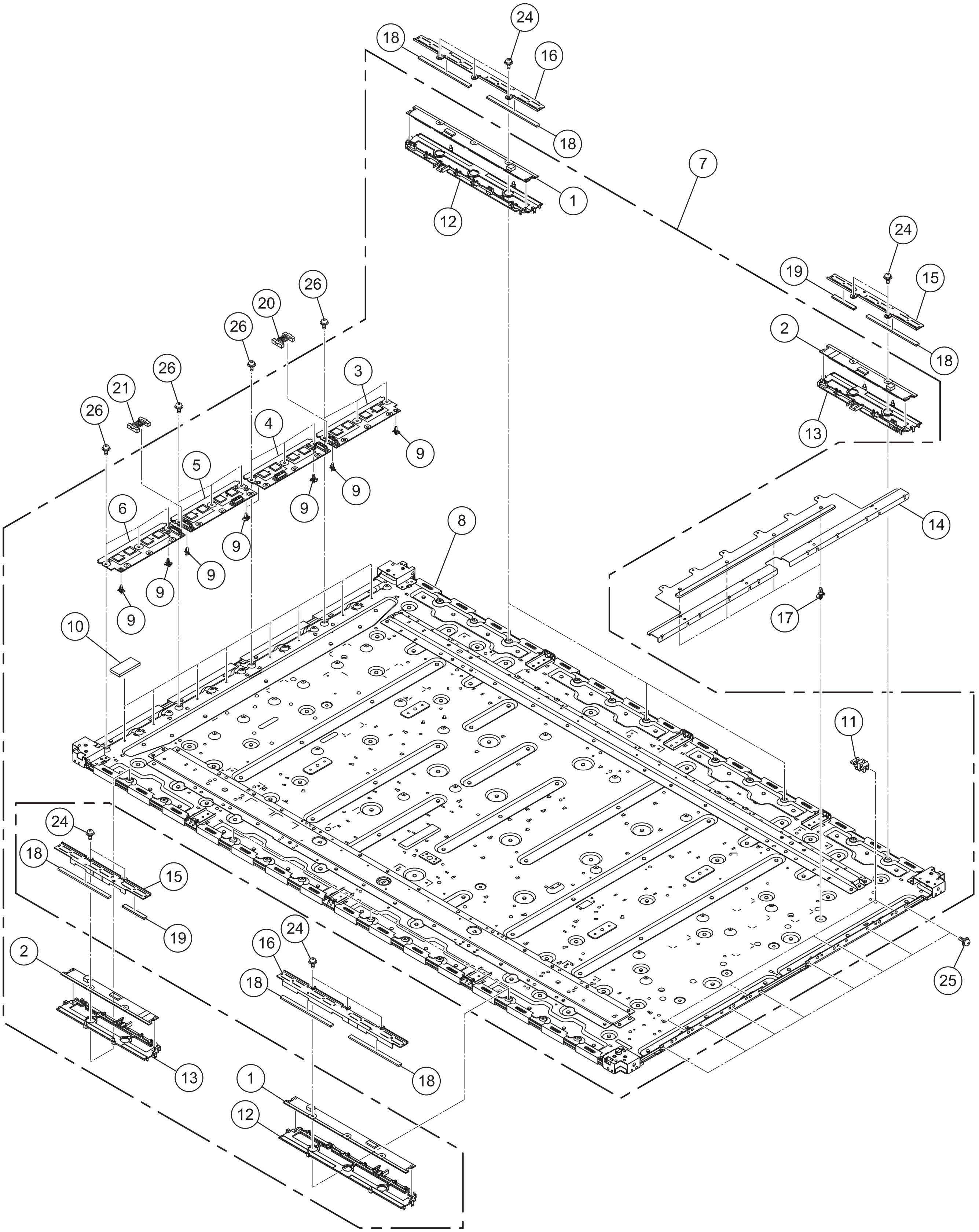

33
50
9
Ⓘ
56
37
17
47
16
37
9
Ⓗ
Ⓙ
53
38
33
9
37
33
35
51
Ⓖ
15
37
56
35
33
38
34
MAIN
CN8002
18
37
MAIN
CN4001
CN4002
Ⓧ
Ⓩ
37
33
9
Ⓕ
9
14
54
Ⓐ
37
34
45
1
37
37
13
28
9
50
55
Ⓑ
9
34
19
58
34
34
45
37
37
10
9
37
37
Ⓦ
Ⓔ
Ⓒ
55
12
11
37
Ⓓ
9
Ⓧ
AUDIO
CN8302
Ⓩ
22
23
MAIN
CN4501
20
Ⓤ
61
Ⓥ
Ⓤ
61
26
Ⓛ
Ⓡ
Ⓠ
MAIN
CN4502
8
62
Ⓚ
61
Ⓢ
Ⓣ
27
39
41
POW SW
CN2201
21
Ⓥ
3
4
Ⓙ
36
40
34
Ⓜ
Ⓝ
25
57
61
62
36
48
24
61
62
39
Ⓟ
Ⓞ
39
AC inlet
39
36
34
35
Ⓔ
52
46
Ⓠ
38
40
Ⓘ
38
36
44
44
Ⓦ
46
Ⓛ
Ⓡ
32
36
36
31
38
Ⓚ
Ⓗ
43
2
FAN
FAN
62
FAN
CN1202
29
30
38
7
Ⓖ
Ⓢ
FAN
CN1203
36
6
Ⓜ
Ⓐ
44
Ⓣ
36
Ⓕ
44
Ⓝ
Ⓑ
38
44
44
44
Ⓞ
Ⓒ
36
42
59
38
46
Ⓟ
38
44
49
Ⓓ
38
44

Refer to
"9.8 PANEL CHASSIS SECTION".

CHASSIS SECTION (2/2) PARTS LIST

Mark	No.	Description	Part No.
	1	60F DIGITAL Assy	AWW1339
	2	SENSOR Assy	AWW1340
	3	60F X DRIVE Assy	AWV2597
	4	60F Y DRIVE Assy	AWV2598
	5	• • • • •	
	6	SENS Assy	AWW1396
	7	FAN CH Assy	AWW1397
⚠	8	POWER SUPPLY Unit	AXY1201
⚠	9	Ferrite Core (F1 - F8)	ATX1072
	10	Flexible Cable (J201)	ADD1550
	11	Flexible Cable (J202)	ADD1551
	12	Flexible Cable (J203)	ADD1552
	13	Flexible Cable (J204)	ADD1553
	14	Flexible Cable (J205)	ADD1554
	15	Flexible Cable (J206)	ADD1555
	16	Flexible Cable (J207)	ADD1556
	17	Flexible Cable (J208)	ADD1557
	18	Flexible Cable (J209)	ADD1558
	19	Flexible Cable (J210)	ADD1559
	20	12P/11P Housing Wire (J101)	ADX3649
	21	11P Housing Wire (J102)	ADX3650
	22	10P Housing Wire (J106)	ADX3652
	23	6P Housing Wire (J107)	ADX3656
	24	5/3/3P Housing Wire (J112)	ADX3658
	25	5/3/3P Housing Wire (J113)	ADX3659
	26	5/3/3P Housing Wire (J114)	ADX3660
	27	5/3/3P Housing Wire (J115)	ADX3661
	28	5P Housing Wire (J108)	ADX3662
	29	9/3/3P Housing Wire (J130)	ADX3666
	30	7/3/3P Housing Wire (J131)	ADX3667
	31	Plate Y	ANG3133
	32	Nylon Rivet	AEC1671
	33	Flat Clamp	AEC1879
	34	Nylon Rivet	AEC2089
	35	Reuse Card Spacer	AEC2117
	36	PCB Spacer (Reuse)	AEC2122
	37	Flat Clamp	AEC2132
	38	Reuse Wire Saddle	AEC2134
	39	Reuse PCB Spacer 6.0	AEC2135
	40	Cap Spacer	AEC2145
	41	Mini PCB Spacer 5.0	AEC2149
	42	Reuse Card Spacer S	AEC2153
	43	Reuse Clamp S	AEC2154
	44	Reuse Fastener S	AEC2155
	45	Reuse PCB Spacer 4.5B	AEC2161
	46	Drive Sheet	AEH1155
⚠	47	Power Assy Silicon	AEH1181
	48	Y Drive Silicon	AEH1184
	49	X Drive Silicon	AEH1185
	50	FAN Sheet A	AMR3764
⚠	51	Power Sheet B	AMR3767
	52	Y Drive Sheet B	AMR3769
⚠	53	Power Sheet 95A	AMR3809
	54	Y Drive Sheet C	AMR3819
	55	FFC Sheet	AMR3821
	56	FAN Sheet B	AMR3831
⚠	57	Y Drive Sheet A (M)	AMR3881
	58	DIGITAL Sheet (M)	AMR3884
	59	Gasket (10 x 10 x 80)	ANK1974
	60	• • • • •	
	61	Screw	ABA1351
	62	Screw	ABA1364

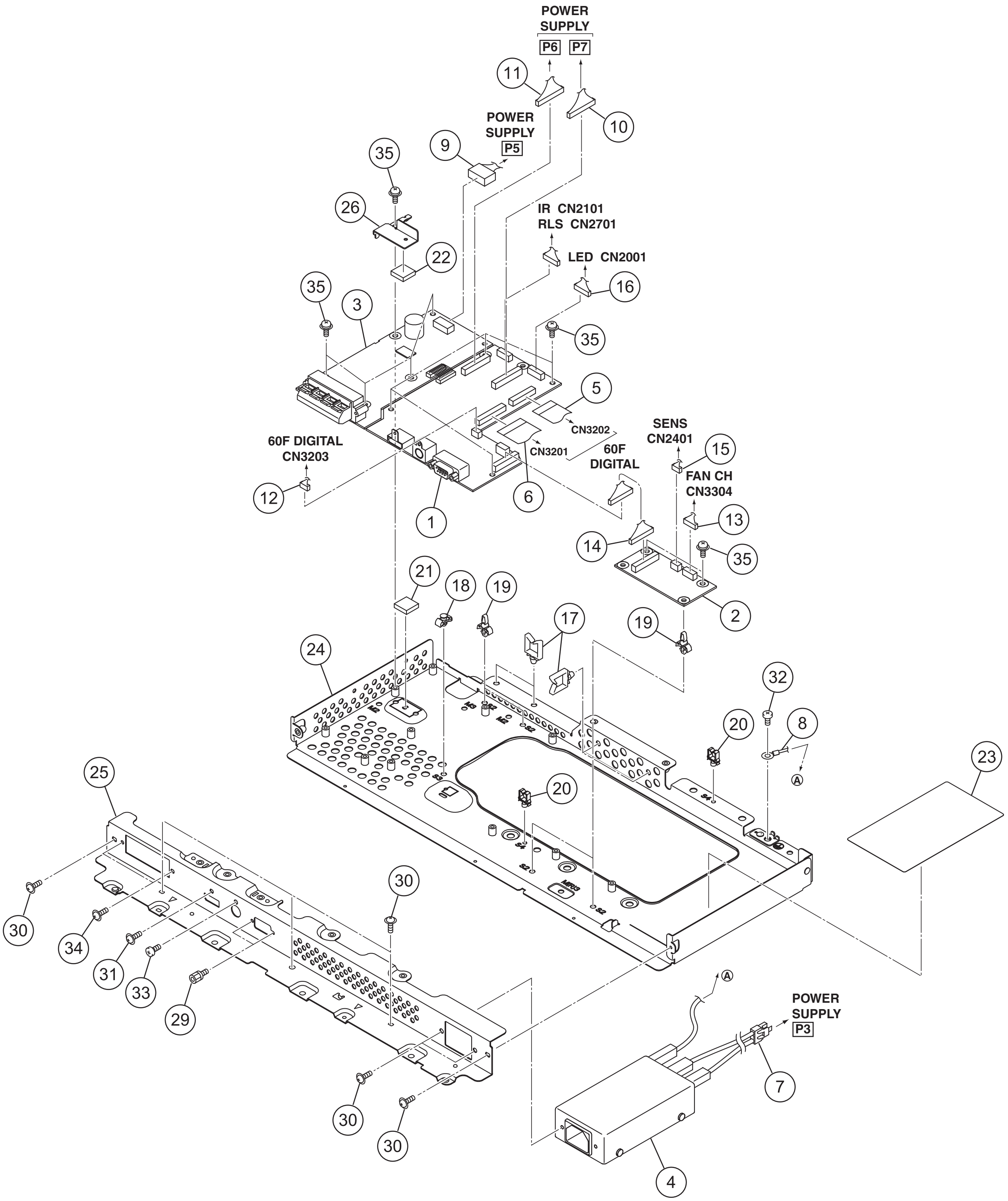
9.8 PANEL CHASSIS SECTION


24
18
16
18
7
1
12
24
19
15
2
18
13
26
20
26
26
21
26
3
4
9
5
9
9
6
9
9
9
8
14
10
9
17
11
24
18
15
19
2
24
16
18
25
13
1
18
12

PANEL CHASSIS SECTION PARTS LIST

Mark	No.	Description	Part No.
NSP	1	60F ADDRESS L Assy	AWW1341
NSP	2	60F ADDRESS S Assy	AWW1342
NSP	3	60F SCAN A Assy	AWW1343
NSP	4	60F SCAN B Assy	AWW1344
NSP	5	60F SCAN C Assy	AWW1345
NSP	6	60F SCAN D Assy	AWW1346
NSP	7	P. Chassis (609FE) Assy	AWU1288
NSP	8	P. Panel (60FE) Assy	AWU1290
	9	Reuse PCB Spacer 4.5B	AEC2161
	10	Scan Sheet	AEH1154
	11	Plate Holder	AMR3757
	12	Address Holder Assy L	AMR3758
	13	Address Holder Assy S	AMR3759
	14	Plate X	ANG3132
⚠	15	Address Heatsink S	ANH1704
⚠	16	Address Heatsink L	ANH1705
	17	PCB Spacer (Reuse)	AEC2122
	18	Address Silicon A	AEH1146
	19	Address Silicon C	AEH1156
	20	3 Piece Connector 15P (CN101)	AKM1393
	21	3 Piece Connector 15P (CN102)	AKM1393
	22	• • • • •	
	23	• • • • •	
	24	Screw	ABA1351
	25	Screw (M3 x 6) SN	ABA1366
	26	Screw	ABA1351

9.9 MULTIBASE SECTION


POWER SUPPLY
P6
P7
11
10
POWER SUPPLY
P5
9
35
26
IR CN2101
RLS CN2701
LED CN2001
22
16
35
3
35
5
CN3202
CN3201
SENS CN2401
15
60F DIGITAL CN3203
60F DIGITAL
FAN CH CN3304
12
1
6
13
14
35
2
21
18
19
17
19
24
32
20
8
Ⓐ
23
25
20
30
30
34
31
33
29
Ⓐ
POWER SUPPLY
P3
7
30
30
4

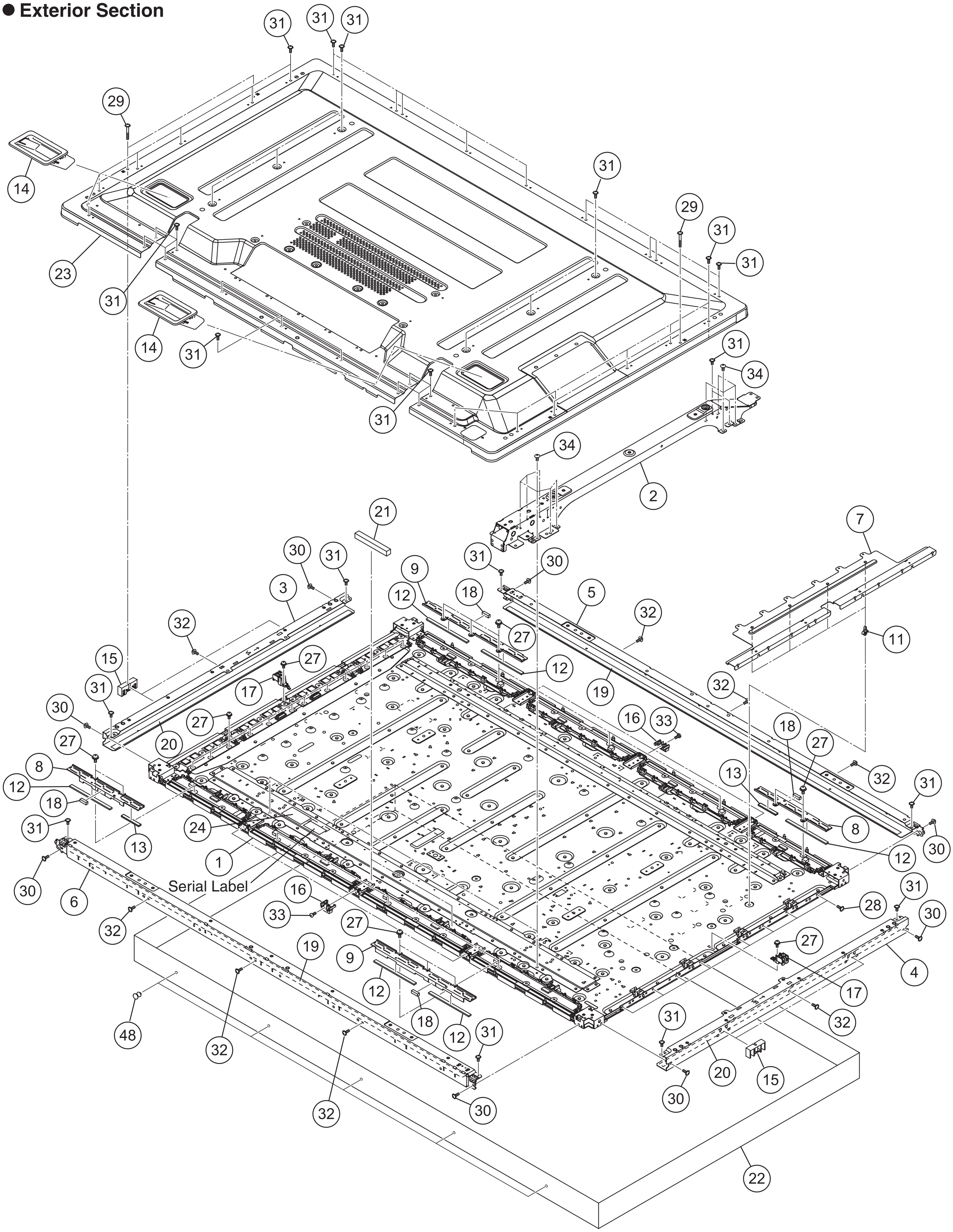
MULTIBASE SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN Assy	AWW1393
	2	FAN Assy	AWW1394
	3	AUDIO Assy	AWW1398
⚠	4	AC Inlet (CN1)	AKP1336
	5	Flexible Cable (J211)	ADD1582
	6	Flexible Cable (J212)	ADD1583
⚠	7	Housing Wire (J104)	ADX3607
⚠	8	Housing Wire (J105)	ADX3651
	9	5P Housing Wire (J111)	ADX3697
	10	15P Housing Wire (J110)	ADX3698
	11	14P Housing Wire (J109)	ADX3699
	12	6P Housing Wire (J140)	ADX3700
	13	6P Housing Wire (J120)	ADX3701
	14	13P Housing Wire (J133)	ADX3702
	15	3P Housing Wire (J134)	ADX3703
	16	7/6P Housing Wire (J116)	ADX3704
	17	Wire Saddle	AEC1745
	18	PCB Support	AEC1938
	19	PCB Spacer (Reuse)	AEC2087
	20	Reuse Mini Saddle	AEC2160
	21	Silicon Sheet MTB A	AEH1174
	22	Silicon Sheet	AEH1177
	23	Inlet Sheet	AMR3875
	24	Multi Base Assy SEP	ANA2229
	25	Terminal Panel SEP	ANC2479
	26	AUDIO Heatsink	ANH1723
	27	• • • • •	
	28	• • • • •	
	29	Hexagon Headed Screw	ABA1382
	30	N Grip Screw (M3 x 6)	ABA1381
	31	Screw	AMZ30P060FTB
⚠	32	Screw	BMP40P080FSN
	33	Screw	BMZ30P060FTB
	34	Screw	BPZ30P080FTB
	35	Screw	PMB30P060FNI

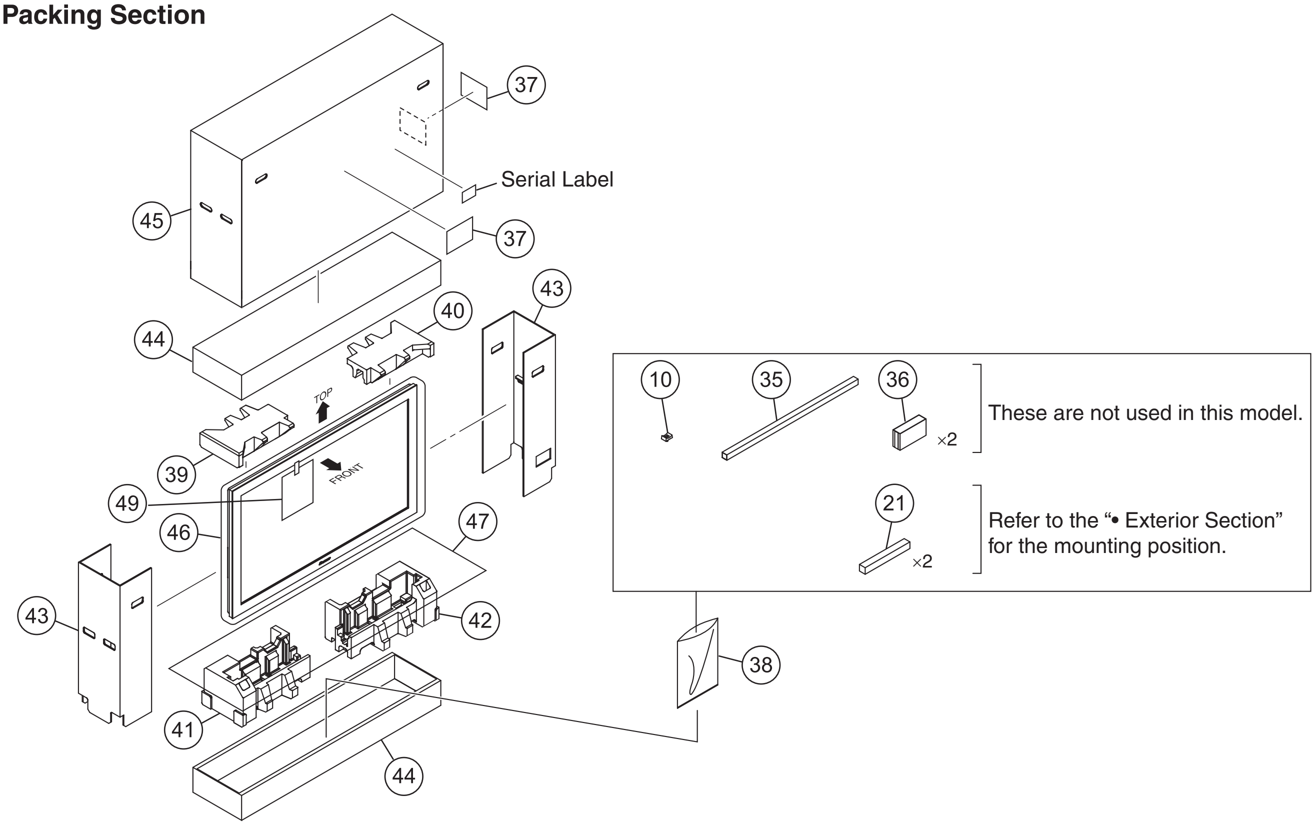
9.10 PDP SERVICE ASSY

PDP SERVICE ASSY 609FE : AWU1379

● **Exterior Section**


31
31
31
29
14
23
31
14
31
31
29
31
31
31
34
31
34
2
21
7
30
31
3
31
30
9
12
18
5
32
27
11
32
15
31
30
27
17
27
20
12
19
32
16
33
18
27
8
12
18
31
13
24
1
13
32
31
8
30
12
30
6
Serial Label
16
33
32
27
28
31
30
19
9
27
4
12
17
48
32
18
12
31
31
32
20
15
32
30
30
22

● Packing Section



These are not used in this model.

Refer to the "• Exterior Section" for the mounting position.

PDP SERVICE ASSY PARTS LIST

Mark	No.	Description	Part No.
NSP	1	P. Chassis (609FE) Assy	AWU1344
	2	Sub Frame Assy	ANA2127
	3	F. Chassis VL Assy	ANA2184
	4	F. Chassis VR Assy	ANA2128
	5	F. Chassis HT Assy	ANA2132
	6	F. Chassis HB Assy	ANA2133
	7	Plate X	ANG3132
⚠	8	Address Heatsink S	ANH1704
⚠	9	Address Heatsink L	ANH1705
	10	Ferrite Core Holder	AEC1818
	11	PCB Spacer (Reuse)	AEC2122
	12	Address Silicon A (508)	AEH1146
	13	Address Silicon C	AEH1156
	14	Inner Grip Assy	AMR3434
	15	Front Bezel Support	AMR3755
	16	F. Chassis H Guide	AMR3756
	17	Support Bracket	AMR3762
	18	Address Gasket	ANK1947
	19	Front Gasket H	ANK1960
	20	Front Gasket V	ANK1961
	21	Gasket (10 x 10 x 80)	ANK1974
NSP	22	Front Bezel (609SERV)	AMB3106
	23	Rear Case Assy 60	ANE1686
NSP	24	Drive Voltage Label	ARW1097
	25	• • • • •	
	26	• • • • •	
	27	Screw	ABA1351
	28	Screw (M3 x 6) SN	ABA1366
	29	Screw (3 x 25 P)	ABA1380
	30	Screw	ABZ30P080FTC
	31	Screw	AMZ30P060FTB
	32	Screw	APZ30P080FTB
	33	Screw	BMZ30P080FTB
	34	Screw	TBZ40P060FTC
	35	Gasket (10 x 10 x 280)	ANK2002
	36	Gasket (15 x 55 x 30)	ANK2003
	37	Caution Label	AAX3031
	38	Vinyl Bag	AHG1336
	39	Pad (609 T-L)	AHA2722
	40	Pad (609 T-R)	AHA2723
	41	Pad (609 B-L)	AHA2724
	42	Pad (609 B-R)	AHA2725
	43	Sub Carton LR (609E)	AHC1110
	44	Under Carton (609E)	AHD3666
	45	Upper Carton (609SERV)	AHD3724
	46	Protect Sheet	AHG1401
	47	Mirror Mat	AHG1402
	48	Rivet (Plastic)	AEC1877
NSP	49	Caution Sheet (9G)	ARM1398

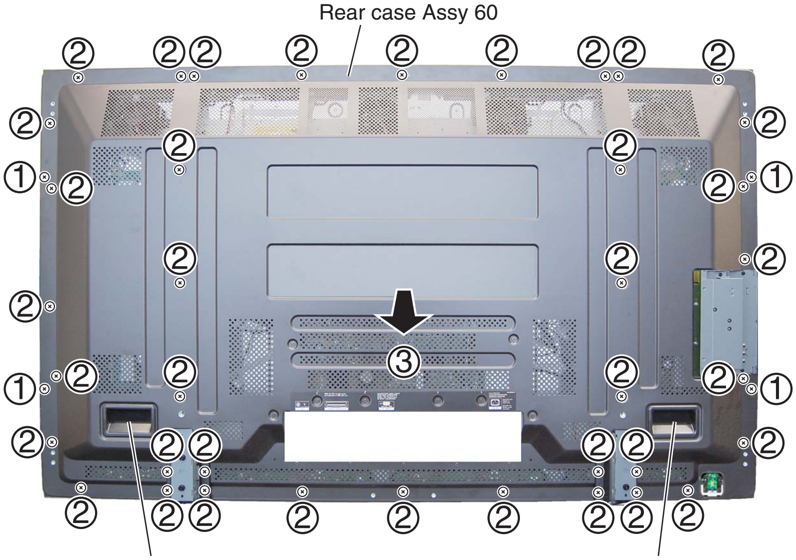
Disassembly / Reassembly of the Service Panel Assy

The panel for service for the 60-inch integrated-type monitor for overseas is used as the panel for service for the 60-inch 9G monitor. Before it can be used for servicing the 9G monitor, it is necessary to replace some of its parts with those from the chassis of the panel to be repaired.
Disassemble/reassemble the panel for service in the manner shown below.

Procedures for removing unnecessary parts

1 Rear Case Assy 60

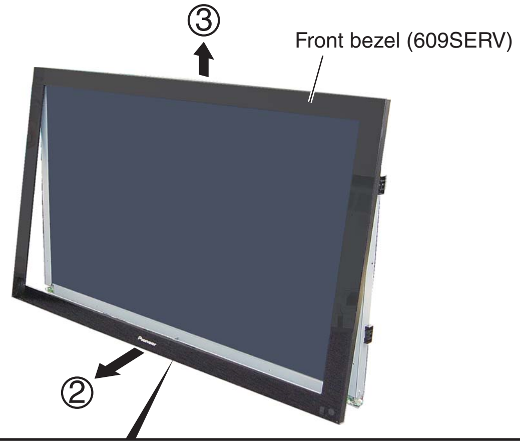
① Remove the four screws. (ABA1380)
② Remove the 38 screws. (AMZ30P060FTB)
③ Remove the rear case Assy 60.

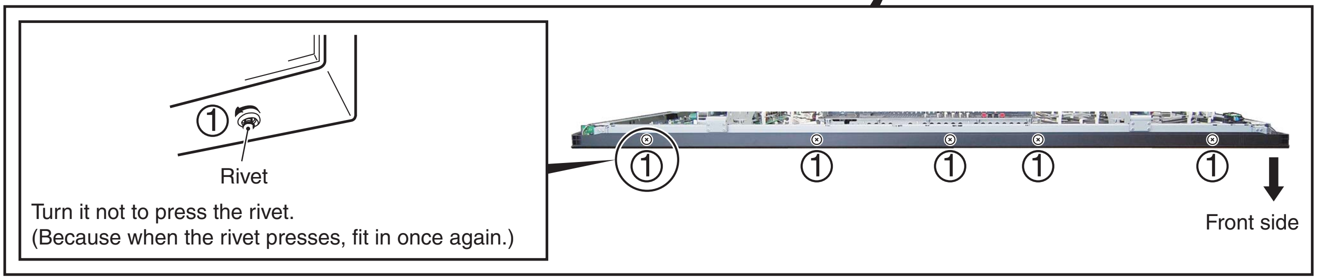


The inner grip Assys do not need to be removed from the rear case Assy 60.

2 Front Bezel (609SERV)

① Remove the five rivets.
② Pull the lower part of the front bezel (609SERV) toward you and out.
③ Remove the front bezel (609SERV), by pulling it upward.





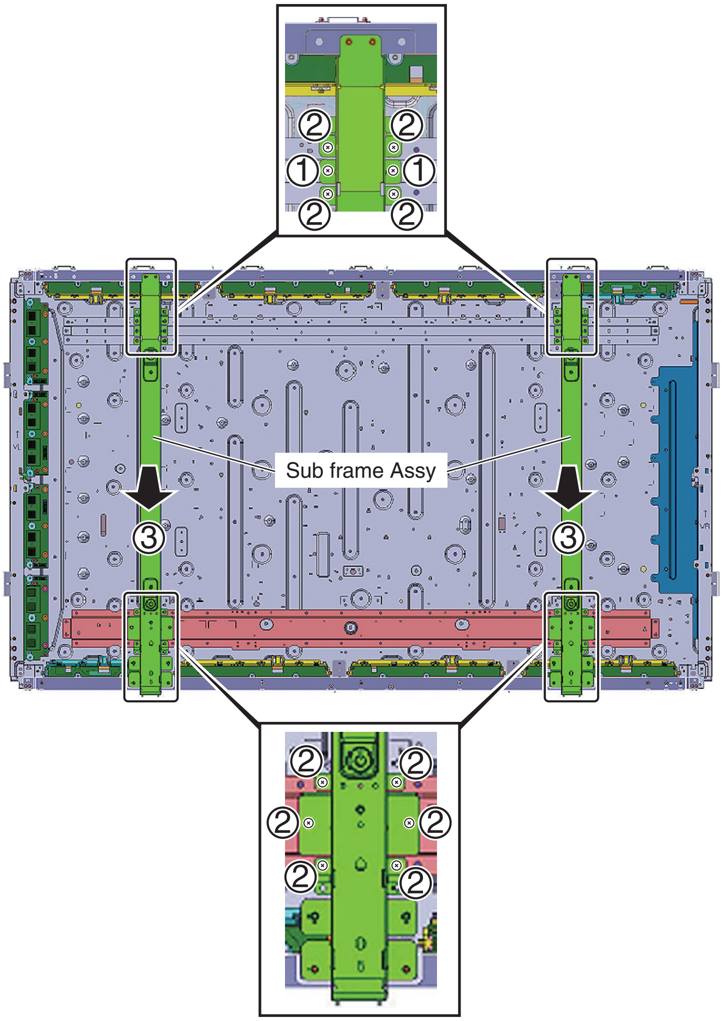
Turn it not to press the rivet.
(Because when the rivet presses, fit in once again.)

3 Sub Frame Assy

① Remove the four screws. (AMZ30P060FTB)

② Remove the 20 screws. (TBZ40P060FTC)

③ Remove the two sub frame Assys.


②
①
Sub frame Assy
③

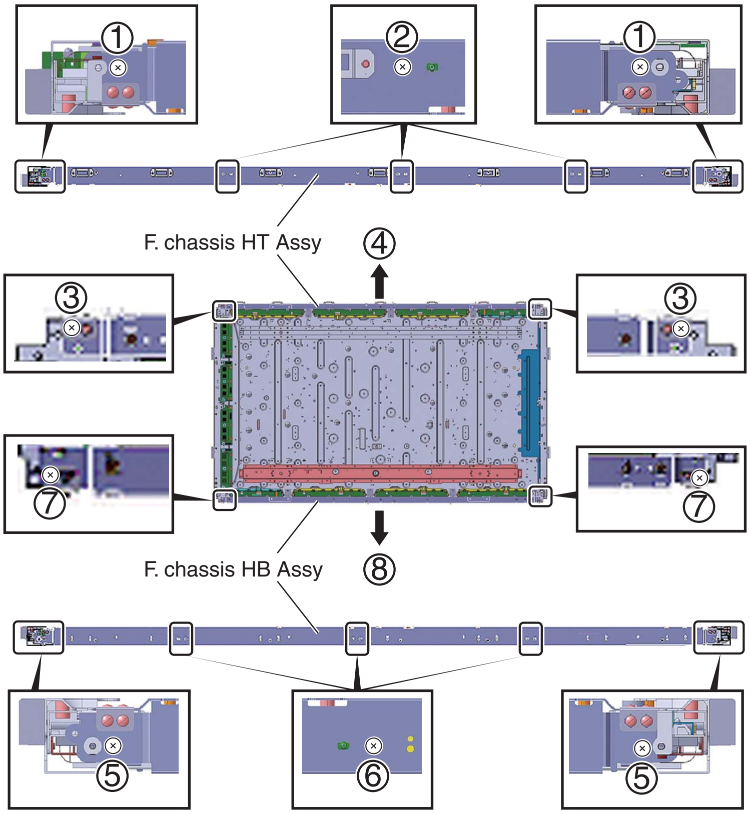
4 F. Chassis HT and HB Assys

● F. chassis HT Assy

① Remove the two screws. (ABZ30P080FTC)
② Remove the three screws. (APZ30P080FTB)
③ Remove the two screws. (AMZ30P060FTB)
④ Remove the F. chassis HT Assy.

● F. chassis HB Assy

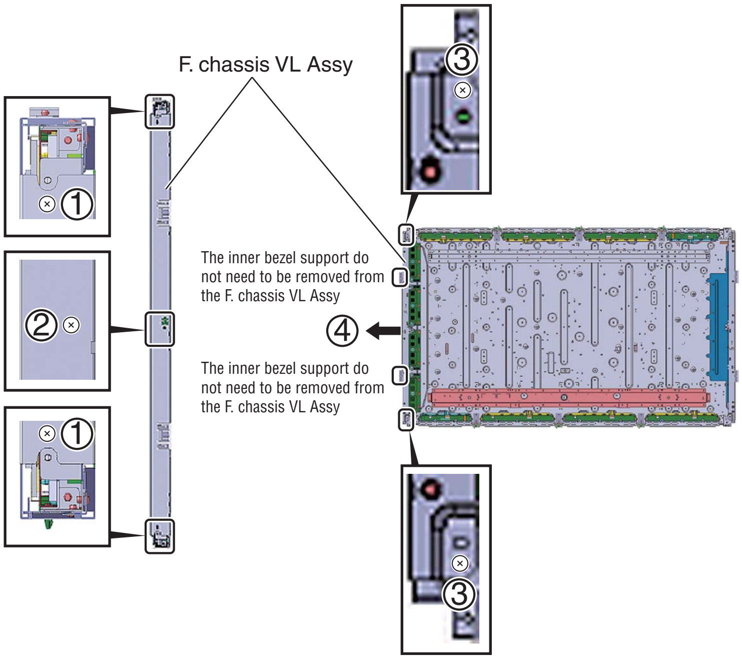
⑤ Remove the two screws. (ABZ30P080FTC)
⑥ Remove the three screws. (APZ30P080FTB)
⑦ Remove the two screws. (AMZ30P060FTB)
⑧ Remove the F. chassis HB Assy.


①
②
①
F. chassis HT Assy
④
③
③
⑦
⑦
F. chassis HB Assy
⑧
⑤
⑥
⑤

5 F. Chassis VL and VR Assys

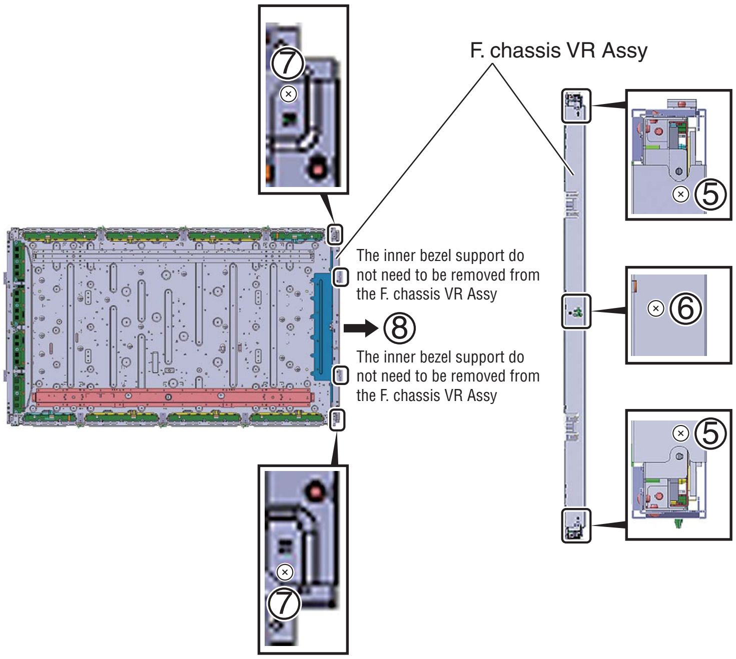
● F. chassis VL Assy

① Remove the two screws. (ABZ30P080FTC)
② Remove the one screw. (APZ30P080FTB)
③ Remove the two screws. (AMZ30P060FTB)
④ Remove the F. chassis VL Assy.


F. chassis VL Assy
③
①
②
①
The inner bezel support do not need to be removed from the F. chassis VL Assy
④
The inner bezel support do not need to be removed from the F. chassis VL Assy
③

● F. chassis VR Assy

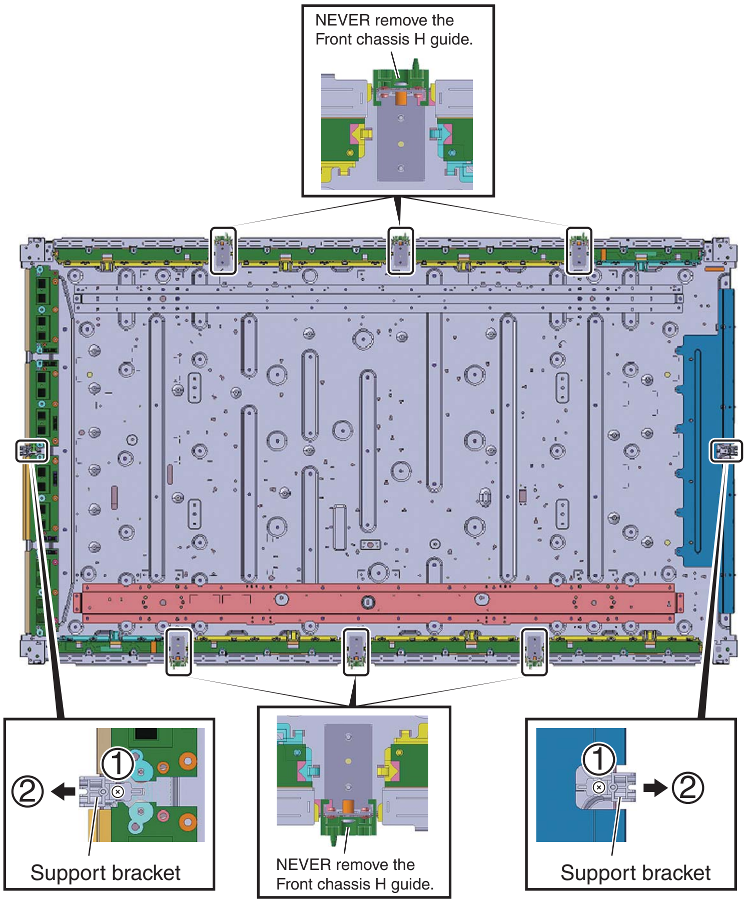
⑤ Remove the two screws. (ABZ30P080FTC)
⑥ Remove the one screw. (APZ30P080FTB)
⑦ Remove the two screws. (AMZ30P060FTB)
⑧ Remove the F. chassis VR Assy.


⑦
F. chassis VR Assy
⑤
The inner bezel support do not need to be removed from the F. chassis VR Assy
⑧
⑥
The inner bezel support do not need to be removed from the F. chassis VR Assy
⑤
⑦

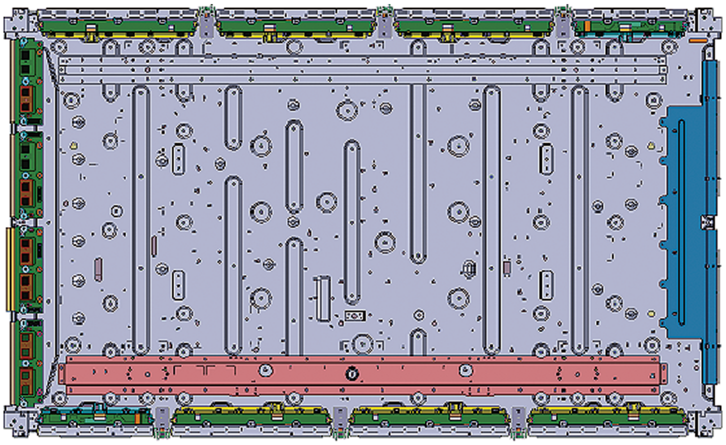
6 Support Bracket

① Remove the two screws. (ABA1351)

② Remove the two support brackets.


NEVER remove the
Front chassis H guide.
①
②
Support bracket
NEVER remove the
Front chassis H guide.
①
②
Support bracket

The state that removed an unnecessary parts

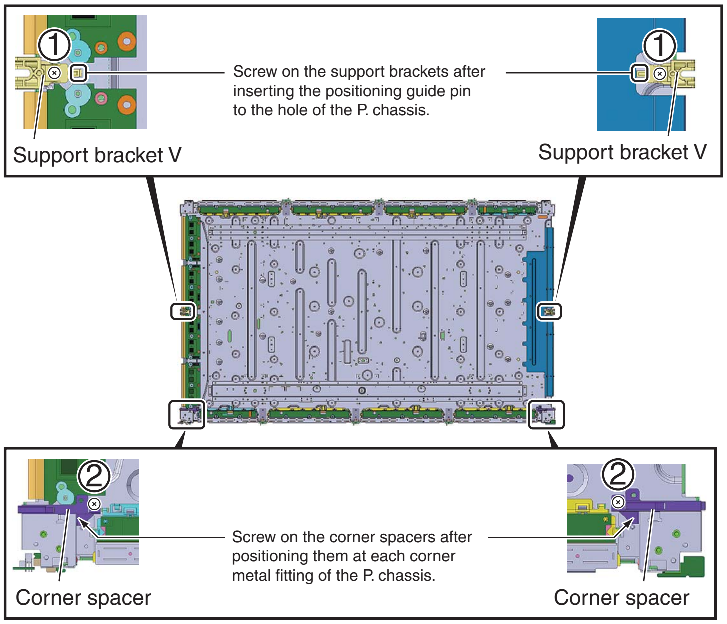


Procedures for reattaching the parts from this model
(Remove the necessary parts from the panel being repaired then reattach them to the panel for service.)

1 Support Bracket V and Corner Spacer

① Tighten the two screws, and attatch the two support brackets V. (ABA1351)

② Tighten the two screws, and attatch the two corner spacer. (ABA1351)


①
①
Support bracket V
Support bracket V
②
②
Corner spacer
Corner spacer

Screw on the support brackets after inserting the positioning guide pin to the hole of the P. chassis.

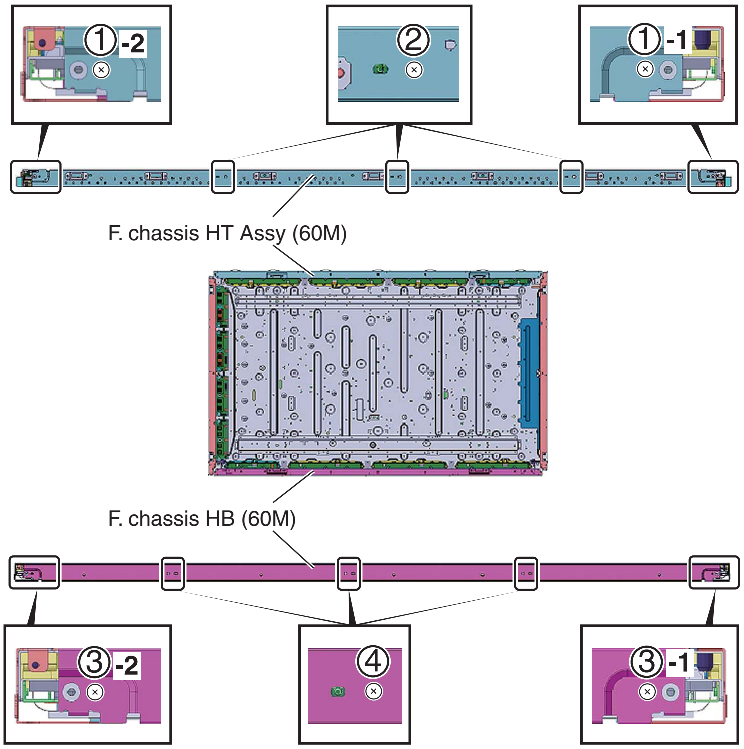
Screw on the corner spacers after positioning them at each corner metal fitting of the P. chassis.

2 F. Chassis HT Assy (60M) and F. Chassis HB (60M)

● F. chassis HT Assy (60M)

① Tighten the two screws. (ABZ30P080FTC)

② Tighten the three screws. (APZ30P080FTB)


①-2
②
①-1
F. chassis HT Assy (60M)
F. chassis HB (60M)
③-2
④
③-1

● F. chassis HB (60M)

③ Tighten the two screws. (ABZ30P080FTC)

④ Tighten the three screws. (APZ30P080FTB)

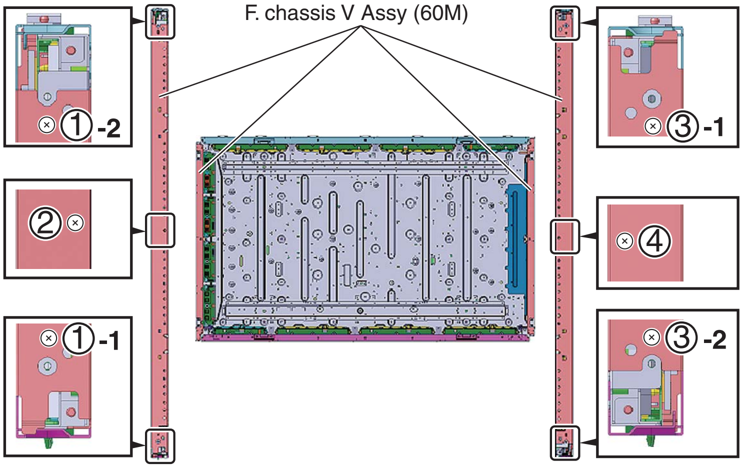
3 F. Chassis V Assy (60M)

● Left side

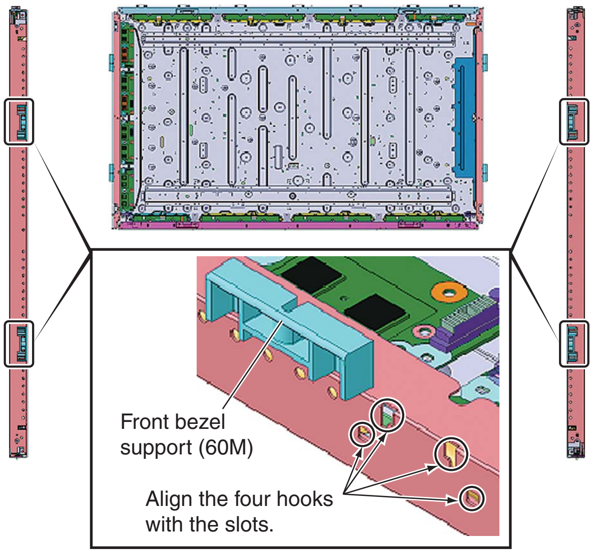
① Tighten the two screws. (ABZ30P080FTC)
② Tighten the one screw. (APZ30P080FTB)

● Right side

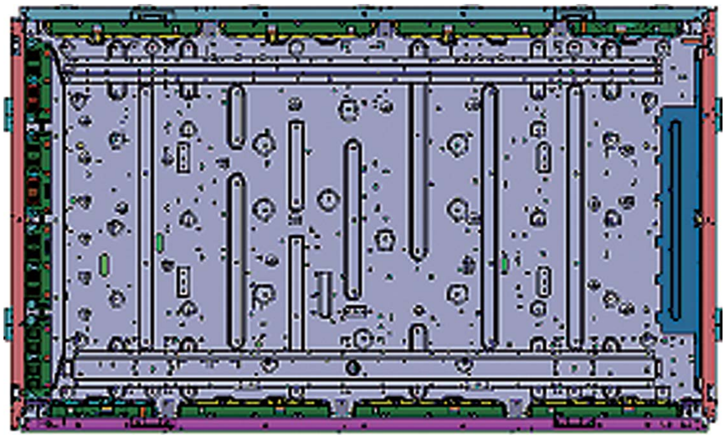
③ Tighten the two screws. (ABZ30P080FTC)
④ Tighten the one screw. (APZ30P080FTB)


F. chassis V Assy (60M)
①-2
②
①-1
③-1
④
③-2

If the front bezel support (60M) is detached from the F. chassis V Assy, reattach it.


Front bezel support (60M)
Align the four hooks with the slots.

In this state, attach the Y DRIVE Assy, X DRIVE Assy, POWER SUPPLY Unit, DIGITAL Assy, and FFC and other cables. Then attach the two sub frames.



Pioneer

Service Manual

KRP-M01

ORDER NO.
ARP3508

MEDIA RECEIVER

KRP-M01

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
KRP-M01	WYSIXK5	AC 220 V to 240 V	
KRP-M01	WYSXJ5	AC 220 V to 240 V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
KRP-M01	ARP3509	SCHEMATIC DIAGRAM, PCB CONNECTION DIAGRAM, PCB PARTS LIST, etc.

For details, refer to "Important Check Points for good servicing".

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

©PIONEER CORPORATION 2008

T-IZS-001 SEPT. 2008 Printed in Japan

SAFETY INFORMATION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.
Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains certain electrical parts contain chemicals which are known to the State of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols ▮▭ (fast operating fuse) and/or ▮▭ (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible ▮▭ (fusible de type rapide) et/ou ▮▭ (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

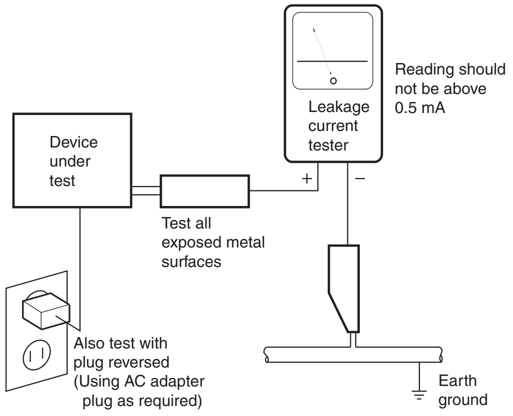
(FOR USA MODEL ONLY)

1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

LEAKAGE CURRENT CHECK

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120 V AC 60 Hz outlet and turn the AC power switch on. Anycurrent measured must not exceed 0.5 mA.


Reading should not be above 0.5 mA
Leakage current tester
Device under test
+
−
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

[Important Check Points for Good Servicing]

In this manual, procedures that must be performed during repairs are marked with the below symbol.
Please be sure to confirm and follow these procedures.

1. Product safety

Please conform to product regulations (such as safety and radiation regulations), and maintain a safe servicing environment by following the safety instructions described in this manual.

① Use specified parts for repair.

Use genuine parts. Be sure to use important parts for safety.

② Do not perform modifications without proper instructions.

Please follow the specified safety methods when modification(addition/change of parts) is required due to interferences such as radio/TV interference and foreign noise.

③ Make sure the soldering of repaired locations is properly performed.

When you solder while repairing, please be sure that there are no cold solder and other debris.
Soldering should be finished with the proper quantity. (Refer to the example)

④ Make sure the screws are tightly fastened.

Please be sure that all screws are fastened, and that there are no loose screws.

⑤ Make sure each connectors are correctly inserted.

Please be sure that all connectors are inserted, and that there are no imperfect insertion.

⑥ Make sure the wiring cables are set to their original state.

Please replace the wiring and cables to the original state after repairs.
In addition, be sure that there are no pinched wires, etc.

⑦ Make sure screws and soldering scraps do not remain inside the product.

Please check that neither solder debris nor screws remain inside the product.

⑧ There should be no semi-broken wires, scratches, melting, etc. on the coating of the power cord.

Damaged power cords may lead to fire accidents, so please be sure that there are no damages.
If you find a damaged power cord, please exchange it with a suitable one.

⑨ There should be no spark traces or similar marks on the power plug.

When spark traces or similar marks are found on the power supply plug, please check the connection and advise on secure connections and suitable usage. Please exchange the power cord if necessary.

⑩ Safe environment should be secured during servicing.

When you perform repairs, please pay attention to static electricity, furniture, household articles, etc. in order to prevent injuries.
Please pay attention to your surroundings and repair safely.

2. Adjustments

To keep the original performance of the products, optimum adjustments and confirmation of characteristics within specification.
Adjustments should be performed in accordance with the procedures/instructions described in this manual.

3. Lubricants, Glues, and Replacement parts

Use grease and adhesives that are equal to the specified substance.
Make sure the proper amount is applied.

4. Cleaning

For parts that require cleaning, such as optical pickups, tape deck heads, lenses and mirrors used in projection monitors, proper cleaning should be performed to restore their performances.

5. Shipping mode and Shipping screws

To protect products from damages or failures during transit, the shipping mode should be set or the shipping screws should be installed before shipment. Please be sure to follow this method especially if it is specified in this manual.

CONTENTS

SAFETY INFORMATION 2
1. SERVICE PRECAUTIONS 5
  1.1 NOTES ON SOLDERING 5
  1.2 NOTES SPECIFIC TO THIS PRODUCT 5
2. SPECIFICATIONS 6
  2.1 ACCESSORIES 6
  2.2 SPECIFICATIONS 7
  2.3 PANEL FACILITIES 8
3. BASIC ITEMS FOR SERVICE 10
  3.1 CHECK POINTS AFTER SERVICING 10
  3.2 QUICK REFERENCE 11
  3.3 PCB LOCATIONS 13
4. BLOCK DIAGRAM 14
  4.1 OVERALL WIRING DIAGRAM 14
  4.2 OVERALL BLOCK DIAGRAM 16
  4.3 POWER SUPPLY UNIT 18
  4.4 POWER SUPPLY BLOCK of MAIN BLOCK ASSY 20
  4.5 AV BLOCK 22
5. DIAGNOSIS 24
  5.1 POWER SUPPLY OPERATION 24
  5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS 34
  5.3 DIAGNOSIS OF PD (POWER-DOWN) 56
  5.4 DIAGNOSIS OF SD (SHUTDOWN) 60
  5.5 NON-FAILURE INFORMATION 64
  5.6 OUTLINE OF THE OPERATION 65
  5.7 OUTLINE OF RS-232C COMMAND 72
  5.8 LIST OF RS-232C COMMANDS 73
  5.9 DETAILS OF RS-232C COMMANDS 75
6. SERVICE FACTORY MODE 80
  6.1 DETAILS OF THE SERVICE FACTORY MENU 80
  6.2 DETAILS OF THE FACTORY MENU 87
  6.3 DIGITAL TUNER SERVICE MENU 99
7. DISASSEMBLY 102
  7.1 FLOWCHART OF REMOVAL ORDER 102
  7.2 DISASSEMBLY 103
8. EACH SETTING AND ADJUSTMENT 115
  8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED 115
  8.2 HOW TO UPDATE USB 117
  8.3 HOW TO UPDATE DISPLAY PORT FIRMWARE 120
9. EXPLODED VIEWS AND PARTS LIST 122
  9.1 PACKING SECTION 122
  9.2 EXTERIOR SECTION 124
  9.3 BOTTOM SECTION 126
  9.4 FRONT PANEL SECTION 128

1. SERVICE PRECAUTIONS

1.1 NOTES ON SOLDERING

- For environmental protection, lead-free solder is used on the printed circuit boards mounted in this unit.
  Be sure to use lead-free solder and a soldering iron that can meet specifications for use with lead-free solders for repairs accompanied by reworking of soldering.

- Compared with conventional eutectic solders, lead-free solders have higher melting points, by approximately 40 ºC.
  Therefore, for lead-free soldering, the tip temperature of a soldering iron must be set to around 373 ºC in general, although the temperature depends on the heat capacity of the PC board on which reworking is required and the weight of the tip of the soldering iron.

Do NOT use a soldering iron whose tip temperature cannot be controlled.

Compared with eutectic solders, lead-free solders have higher bond strengths but slower wetting times and higher melting temperatures (hard to melt/easy to harden).

The following lead-free solders are available as service parts:
- Parts numbers of lead-free solder:
  GYP1006 1.0 in dia.
  GYP1007 0.6 in dia.
  GYP1008 0.3 in dia.

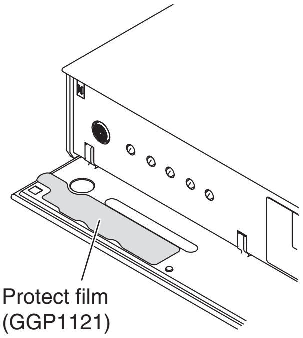
1.2 NOTES SPECIFIC TO THIS PRODUCT

1. Notes before starting repair

- The high-gloss resin parts of the exterior of this product are easily scratched. During disassembly and reassembly of this product, be careful not to scratch the exterior.

- If the door of this product is pressed firmly from the front or when the KEY Assy and LED Assy are reassembled, print of the front-panel operating section may be transferred to the inside surface of the door. To avoid this, be sure to attach the protect film to the inside surface of the door before repairing. If protect film is not available, slip a cleaning cloth or the like inside the door for protection.

- Remove the attached protect film after product installation is completed. If the repaired product is to be delivered to the customer' s home or a dealer, leave the protect film attached.



2. Note on Disassembly/Reassembly

1) Fixing screws for the HDMI connector and system cable connector

For tightening the screws for the HDMI connector and system cable connector, do not use an electric screwdriver. Tighten them manually. If they are tightened too forcefully with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be loosened/tightened any more.

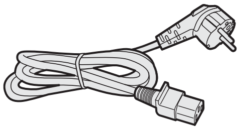
2. SPECIFICATIONS

2.1 ACCESSORIES

- Power cable

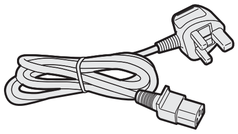
Only the power cable appropriate for your country or region is supplied:

(ADG1214)



For Europe, except UK and Republic of Ireland

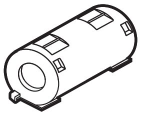
(ADG1223)



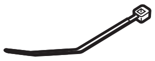
For UK and Republic of Ireland

WYSIXK5 only

- Ferrite core (ATX1039)



Ferrite core



Cable tie (for ferrite core)

2.2 SPECIFICATIONS

Item			Media Receiver, model: KRP-M01
Colour System			PAL/SECAM/NTSC 3.58/NTSC 4.43/PAL 60
TV Function (Analogue)	Receiving System		B/G, D/K, I, L, L'
	Tuner	VHF/UHF	E2–E69 ch, F1–F6 ch, I21–I69 ch, IR A–IR J ch
		CATV	Hyper-band, S1–S41 ch
	Auto Channel Preset		99 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		NICAM/A2
TV Function (Digital)	Receiving System		DVB-T(2K/8K COFDM)
	Tuner	VHF/UHF	VHF Band III (170 MHz to 230 MHz) and UHF Band IV, V (470 MHz to 862 MHz)
	Auto Channel Preset		999 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		MPEG layer I/II, Dolby Digital, Dolby Digital Plus, HE-AAC v1
TV Function (Satellite)	Receiving System		DVB-S, DVB-S2
	IF Tuner		950 MHz to 2150 MHz
	Auto Channel Preset		5000 ch, Auto Preset, Auto Label, Auto Sort
	STEREO		MPEG layer I/II, Dolby Digital, Dolby Digital Plus, HE-AAC v1
Terminals	Rear	INPUT 1	SCART (AV in, RGB in, TV out), HDMI in [*1]
		INPUT 2	SCART (AV in/out, S-Video in, AV link [*2]), Component Video in, AUDIO in
		INPUT 3	SCART (AV in/out, S-Video in, RGB in, AV link[*2]), HDMI in[*1]
		INPUT 4	HDMI in[*1]
		CONTROL OUT	1
		SYSTEM CABLE	1
		Antenna	75 Ω Din Type for VHF/UHF in/SAT (Satellite) in
		AUDIO OUT	AUDIO out (Fixed)
		SUB WOOFER OUT	Variable
		DIGITAL OUT	Digital audio output (Optical)
		LAN (10/100)	1
	Front	INPUT 5	Video in, HDMI in[*1]
		PC INPUT	Analogue RGB
		INPUT 5/PC INPUT	Audio in
		USB	USB in[*3]
		PHONES	16 Ω to 32 Ω recommended
		COMMON INTERFACE	2, CA Module
		Power Requirements	220 V to 240 V AC, 50 Hz/60 Hz, 52 W (0.4 W Standby)
		Weight	4.5 kg (9.9 lbs)

[*1] This conforms to HDMI 1.3 (Deep Colour) and HDCP1.1. HDMI (High-Definition Multimedia Interface) is a digital interface that handles both video and audio using a single cable. HDCP (High-bandwidth Digital Content Protection) is a technology used to protect copyrighted digital contents that use the Digital Visual Interface (DVI).

[*2] Switchable from menu.

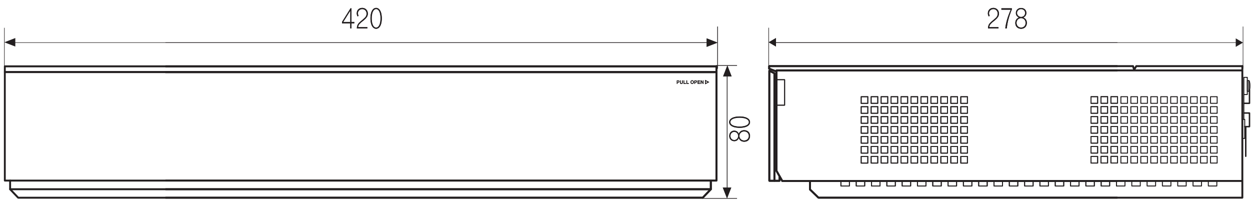
[*3] This conforms to USB 1.1 and 2.0 specifications.

Design and specifications are subject to change without notice.

Dimensions (Media Receiver)

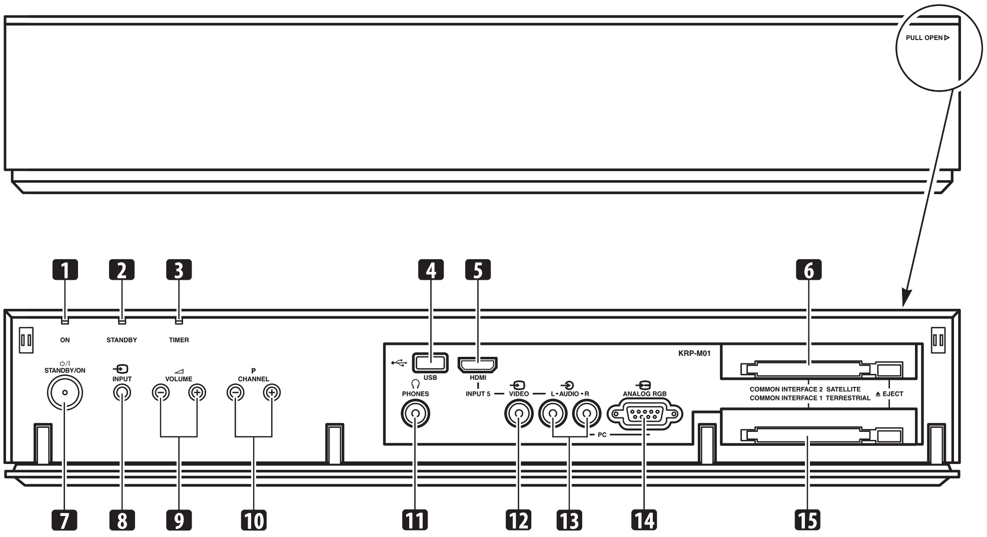
KRP-M01

Unit: mm



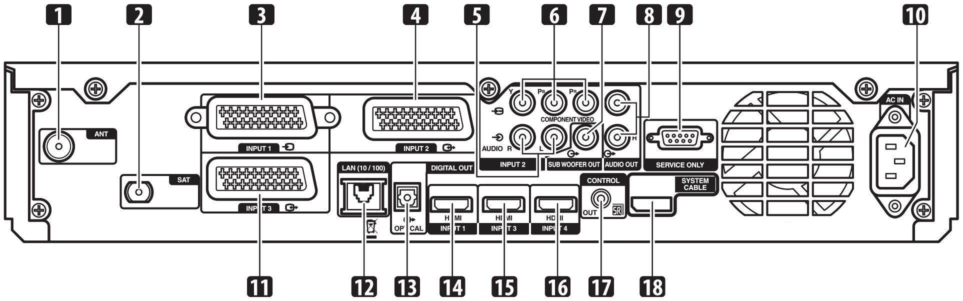
2.3 PANEL FACILITIES

(Front)


PULL OPEN
1
2
3
4
5
6
ON
STANDBY
TIMER
STANDBY/ON
INPUT
VOLUME
P
CHANNEL
USB
HDMI
INPUT 5
PHONES
VIDEO
L • AUDIO • R
ANALOG RGB
PC
KRP-M01
COMMON INTERFACE 2 SATELLITE
COMMON INTERFACE 1 TERRESTRIAL
EJECT
7
8
9
10
11
12
13
14
15

1 Power ON indicator
2 STANDBY indicator
3 TIMER indicator
4 USB port
5 INPUT 5 terminal (HDMI)
6 COMMON INTERFACE 2 SATELLITE slot
7 STANDBY/ON button
8 INPUT button
9 VOLUME Up/Down buttons
10 CHANNEL Up/Down buttons
11 PHONES output terminal
12 INPUT 5 terminal (Video)
13 INPUT 5/PC INPUT terminals (Audio)
14 PC INPUT terminal (Analogue RGB)
15 COMMON INTERFACE 1 TERRESTRIAL slot

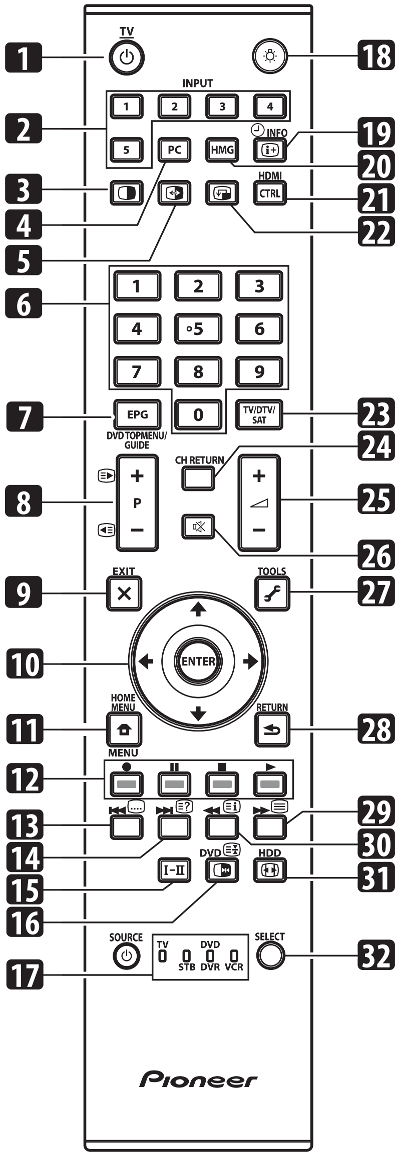
(Rear)


1
2
3
4
5
6
7
8
9
10
ANT
SAT
INPUT 1
INPUT 2
INPUT 3
Y
PB
PR
COMPONENT VIDEO
AUDIO
L
R
INPUT 2
SUB WOOFER OUT
AUDIO OUT
SERVICE ONLY
AC IN
LAN (10 / 100)
DIGITAL OUT
OPTICAL
HDMI
INPUT 1
HDMI
INPUT 3
HDMI
INPUT 4
CONTROL
OUT
SYSTEM CABLE
11
12
13
14
15
16
17
18

1 ANT (Antenna) input terminal
2 SAT (Satellite) input terminal
3 INPUT 1 terminal (SCART)
4 INPUT 2 terminal (SCART)
5 INPUT 2 terminals (Audio)
6 INPUT 2 terminals (COMPONENT VIDEO: Y, P_B, P_R)
7 SUB WOOFER OUT terminal
8 AUDIO OUT terminals
9 RS-232C terminal (SERVICE ONLY)
(used for factory setup)
10 AC IN terminal
11 INPUT 3 terminal (SCART)
12 LAN (10/100) port
13 DIGITAL OUT terminal (OPTICAL)
14 INPUT 1 terminal (HDMI)
15 INPUT 3 terminal (HDMI)
16 INPUT 4 terminal (HDMI)
17 CONTROL OUT terminal
18 SYSTEM CABLE terminal

Remote Control Unit

This section describes the functions of the buttons available when the TV mode has been selected by using the **SELECT** button.



1 **⏻TV :** Turns on the power to the flat screen TV or places it into the standby mode.

2 **INPUT:** Selects an input source of the flat screen TV. (“INPUT 1”, “INPUT 2”, “INPUT 3”, “INPUT 4”, “INPUT 5”)

3 **◧:** Switches the screen mode among 2-screen, picture-in-picture, and single-screen.

4 **PC:** Selects the PC terminal as an input source.

5 **⇔:** Switches between the two screens when in the 2-screen or picture-in-picture mode.

6 **0 to 9:** TV/External input mode: Selects a channel.
Teletext mode: Selects a page.
Turns the power on when the STANDBY indicator lights red.

7 **EPG:** Displays the Electronic Programme Guide in DTV/SAT (Satellite) input mode.

8 **P+/P–:** TV/External input mode: Selects a channel.
▤▸/◂▤: Teletext mode: Selects a page.

9 **✕ EXIT:** Returns to the normal screen in one step.

10 **↑/↓/←/→:** Selects a desired item on the setting screen.
ENTER: Executes a command.

11 **⌂ HOME MENU:** Displays the HOME MENU screen.

12 **Colour (RED/GREEN/YELLOW/BLUE):**
Controls a BD player for HDMI Control functions only.

13 **▭:** Jumps to Teletext subtitle page.
Turns subtitle on and off in DTV input mode depending on the broadcast.

14 **▤?:** Displays hidden characters.

15 **I–II:** Sets the sound multiplex mode.

16 **◧:** TV/External input mode: Freezes a frame from a moving image. Press again to cancel the function.
▤ : Teletext mode: Stops updating Teletext pages. Press again to release the hold mode.

17 **TV, STB, DVD/DVR, VCR:** These indicators show the current selection and status when you control other connected equipment, using the supplied remote control unit.

18 **☼:** Lights up buttons.
Lights turn off if no operations are performed within five seconds. This is used for remote control use in dark locations.

19 **ⓘ+ ◷ INFO:** Displays the channel information.
Displays the banner information.

20 **HMG (Home Media Gallery):** Displays the Home Media Gallery screen.

21 **HDMI CTRL:** Displays the HDMI Control menu.

22 **◲:** Moves the location of the small screen when in the picture-in-picture mode.

23 **TV/DTV/SAT:** Switches the mode among TV, DTV and SAT.

24 **CH RETURN:** Returns to the previous channel.

25 **◿ +/◿ –:** Sets the volume.

26 **🔇:** Mutes the sound.

27 **🔧 TOOLS:** Displays the TOOLS Menu.

28 **↶ RETURN:** Restores the previous menu screen.

29 **▤:** Selects the Teletext mode (all TV image, all TEXT image, TV/TEXT image).

30 **▤i:** Displays an Index page for the CEEFAX/FLOF format.
Displays a TOP Over View page for the TOP format.

31 **◫:** Selects the screen size.

32 **SELECT:** Switches the selection among TV, STB, DVD/DVR, and VCR, so that you can control other connected equipment, using the supplied remote control unit.

Note

- When using the remote control unit, point it at the display panel.

3. BASIC ITEMS FOR SERVICE

3.1 CHECK POINTS AFTER SERVICING

Items to be checked after repair (PDP)

To ensure the quality of the product after repair, check the recommended items shown below:

No.	Procedures	Item to be checked
1	Check if all the symptoms pointed out by the customer have been addressed.	The symptoms in question must not be reproduced.
2	Connect the peripheral equipment.	Connect all external peripheral equipment as originally connected and check if the connections are correct.
3	Check the video and audio.	Tune in to the stations that the customer would normally receive and check if video and audio are normal.
4	Check the buttons and controls.	Use the buttons and controls on the remote control unit and main unit and check if they operate properly.
5	Check the cabinet.	Check for any scratches or dirt that have been made or attached on the cabinet after receiving the product for repair.

See the table below for the items to be checked regarding video and audio:

Item to be checked regarding video	Item to be checked regarding audio
Block noise	Distortion
Horizontal noise	Noise
Dot noise	Volume too low
Disturbed image (video jumpiness)	Volume too high
Too dark	Volume fluctuating
Too bright	Sound interrupted
Mottled color	

Cleaning

Name	Part No.	Remarks
Cleaning paper	GED-008	Used to fan cleaning. Refer to “9.3 BOTTOM SECTION.”

3.2 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① Rear case

When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "7. DISASSEMBLY".

② Attaching screws for the HDMI and system cable terminals

When attaching the HDMI and system cable terminals after replacing the Assembly, secure the terminals manually with a screwdriver, but not with an electric screwdriver.
If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① How to discharge before replacing the Assys

A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".

② On the settings after replacement of the Assys

Some boards need settings made after replacement of the Assys. For details, see "8. EACH SETTING AND ADJUSTMENT".

3. On various settings

① Setting in Factory mode

After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

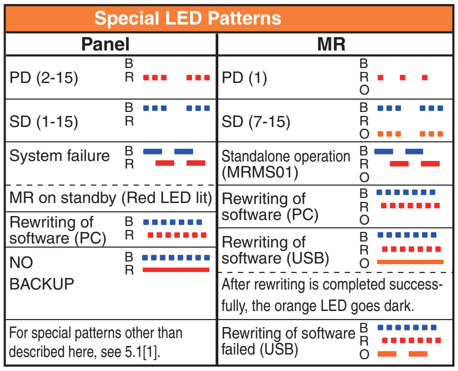
PD

No. of LEDs flashing	MR
Red 1	MR_POWER
	Panel
Red 2	POWER
Red 3	SCAN
Red 4	SCN-5V
Red 6	Y-DCDC
Red 7	Y-SUS
Red 8	ADRS
Red 10	X-DCDC
Red 11	X-SUS
Red 12	DIG-DCDC
Red 15	UNKNOWN

SD

Panel	No. of LEDs flashing	MR
SQ_LSI	Blue 1	
Module Device communication	Blue 2	
DIGITAL-RST2	Blue 3	
Panel temperature	Blue 4	
Audio	Blue 5	Audio (MSP)
Module microcomputer communication	Blue 6	
	Blue 7	Main 3-wire serial communication
Panel main IIC communication	Blue 8	Main IIC communication
	Blue 9	Main microcomputer communication
FAN	Blue 10	FAN
Unit high temperature	Blue 11	Unit high temperature
	Blue 12	D-TUNER communication
DC-IN	Blue 13	RST2/RST4
Panel main EEPROM	Blue 15	Main EEPROM

Special LED Patterns


Panel
MR
PD (2-15)
B
R
PD (1)
B
R
O
SD (1-15)
B
R
SD (7-15)
B
R
O
System failure
B
R
Standalone operation (MRMS01)
B
R
O
MR on standby (Red LED lit)
Rewriting of software (PC)
B
R
Rewriting of software (PC)
B
R
O
NO BACKUP
B
R
Rewriting of software (USB)
B
R
O
Rewriting of software failed (USB)
B
R
O

After rewriting is completed successfully, the orange LED goes dark.

For special patterns other than described here, see 5.1[1].

Subcategory confirmation procedure

If the DISPLAY key is pressed during shutdown, the orange LED flashes. (MR only)

SD		SD Subcategory
8	1	Tuner 1
	2	MSP/MAP
	3	AV Switch
	4	RGB Switch
	5	Main VDEC
	6	VDEC-SDRAM
	7	AD/PLL
	8	HDMI
	9	Display Port Tx
13	1	RST2
	2	RST4

Other SD main categories have subcategories.
For details, see 5.4[2].

Commands for shifting between standalone and system operations

Panel	MR
To Standalone operation: SYSS00	To Standalone operation: MRMS01
To System operation: SYSS01	To System operation: MRMS00

Note: After issuing a command, unplug then again plug in the AC power cord.

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count

Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

2. Confirmation of the Power-down and Shutdown histories

① Panel system

PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] two times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

② MR section

Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] two times.)

③ Panel main section

Select {PANEL MAIN FACTORY} then {PM NG INFO}.
After entering Factory mode, press [MUTING] twice, then press [ENTER/SET].

3. How to display the Mask indication

① Mask indication in the panel side

1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬆] or [⬇].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. DIGITAL Assy (Panel): Transfer of backup data

① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

2. MAIN BLOCK Assy (MR), MAIN Assy (Panel): Execution of FINAL SETUP.

① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] three times, then press [⬇] four times.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit (Panel): Clearance of the accumulated power-on count and maximum temperature value

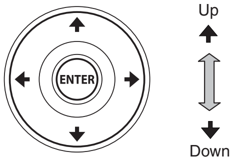
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

4. Other Assys (Panel): Clearance of the maximum temperature value

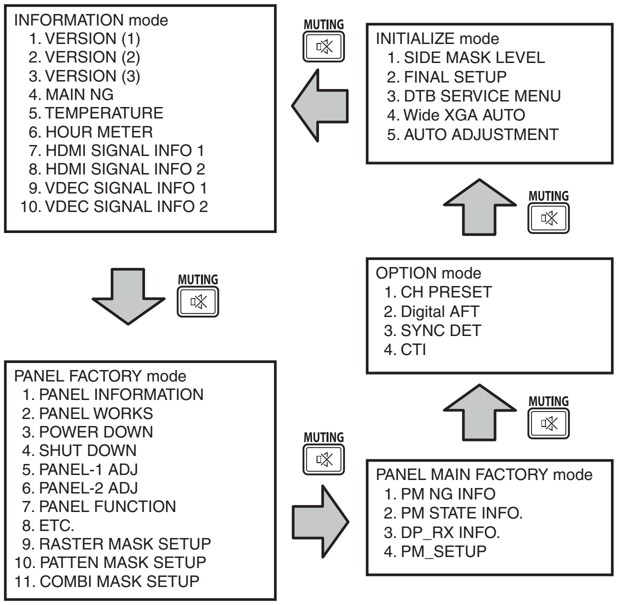
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [↑] or [↓].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. VERSION (3)
4. MAIN NG
5. TEMPERATURE
6. HOUR METER
7. HDMI SIGNAL INFO 1
8. HDMI SIGNAL INFO 2
9. VDEC SIGNAL INFO 1
10. VDEC SIGNAL INFO 2

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

PANEL MAIN FACTORY mode
1. PM NG INFO
2. PM STATE INFO.
3. DP_RX INFO.
4. PM_SETUP

OPTION mode
1. CH PRESET
2. Digital AFT
3. SYNC DET
4. CTI

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. DTB SERVICE MENU
4. Wide XGA AUTO
5. AUTO ADJUSTMENT

Structure of Layers in Service Factory Mode

INFORMATION mode	
1. VERSION (1)	The software versions for each microcomputer
2. VERSION (2)	The Flash memory versions for each device
3. VERSION (3)	The software versions for display microcomputer
4. MAIN NG	The shutdown message ID/event times (Going Clear mode by [ENTER/SET] key)
4-1. CLEAR	Select Yes by [→] key → pushing and hold [ENTER/SET] key
5. TEMPERATURE	The temperature/FAN rotating status
6. HOUR METER	The HOUR METER/P-COUNT information
7. HDMI SIGNAL INFO 1	The information of HDMI information files
8. HDMI SIGNAL INFO 2	The information of HDMI information files
9. VDEC SIGNAL INFO 1	The signal information of VDEC
10. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
PANEL MAIN FACTORY mode	
1. PM NG INFO.	Shutdown history of the panel main
2. PM STATE INFO.	The temperature/FAN rotating status/Room Light Sensor
3. DP_RX INFO.	Indication of the DPRx ID
4. PM_SETUP	Select the bezel color and clear the shutdown history of the panel main
OPTION mode	
1. CH PRESET	For production line use
2. Digital AFT	For production line use
3. SYNC DET	For technical analysis
4. CTI	For technical analysis
INITIALIZE mode	
1. SIDE MASK LEVEL	For factory use
1-1. SIDE MASK LEVEL	
2. FINAL SETUP	Set to Factory default settings (it should perform after replacing a MAIN Assy)
2-1. DATA RESET	
3. DTB SERVICE MODE	Information for the Digital Tuner Service Menu is displayed
3-1. MODE SHIFT	
4. Wide XGA AUTO	For technical analysis
5. AUTO ADJUSTMENT	

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
1. VOL SUS 2. VOL OFFSET • • • • •	Settings required after replacement of the panel
10. RESET1ST_KSB • • • • •	Items for factory use
25. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
1. R-HIGH 2. G-HIGH • • • • • 6. B-LOW 7. ABL	For the WB adjustment of the panel and ABL adjustment. A setting table is available for each signal frequency.
7. PANEL FUNCTION (+)	
1. R-LEVEL • • • • •	Items for factory use

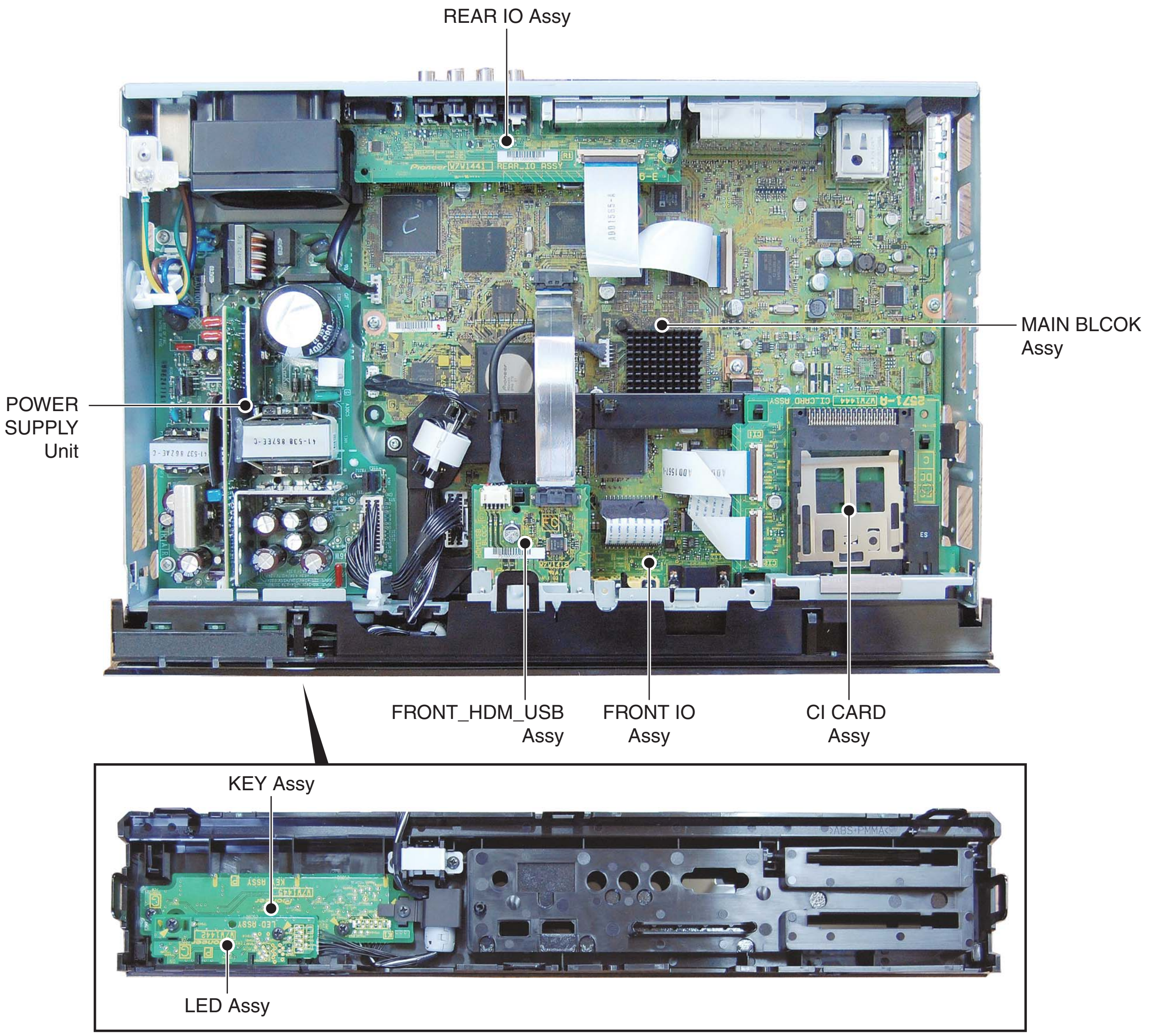
To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

8. ETC (+)	
1. BACKUP DATA 2. DIGITAL EEPROM	For transferring backup data (after replacement of the DIGITAL Assy) Change the adjustment status of the DIGITAL Assy.
3. PD INFO. 4. SD INFO. 5. HR-MTR INFO. 6. PM/B1-B5 7. P COUNT INFO. 8. MAX TEMP.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", then hold [ENTER/SET] pressed for at least 5 seconds.
9. MIRROR	Switch the Mirror display mode.
10. CLS	Switch the function when checking the color sensor level.
9. RASTER MASK SETUP (+)	
1. MASK OFF 2. RST MASK 01 • • • • •	For use while the Raster Mask is displayed. Use [↑] or [↓] to select the type of mask. Use [→] or [←] to select the sequence.
10. PATTERN MASK SETUP (+)	
1. MASK OFF 2. PTN MASK 01 • • • • •	For use while the Pattern Mask is displayed. Use [↑] or [↓] to select the type of mask. Use [→] or [←] to select the sequence.
11. COMBI MASK SETUP (+)	
1. MASK OFF 2. CMB MASK 01 • • • • •	For use while the Combination Mask is displayed. Use [↑] or [↓] to select the type of mask. Use [→] or [←] to select the sequence.

3.3 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.


REAR IO Assy
MAIN BLCOK Assy
POWER SUPPLY Unit
FRONT_HDM_USB Assy
FRONT IO Assy
CI CARD Assy
KEY Assy
LED Assy

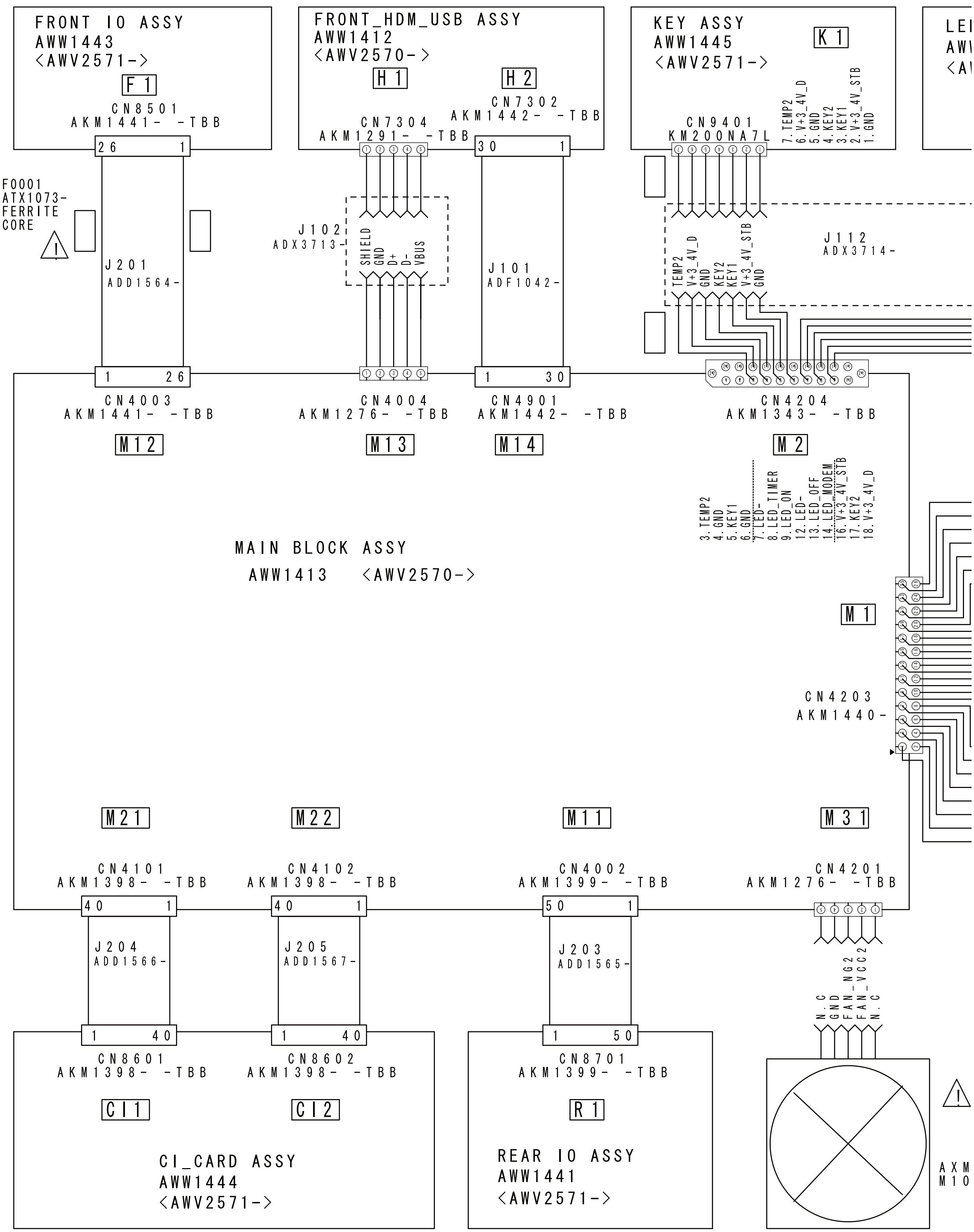
NOTES: ● *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

Mark	No. Description	Part No.
NSP	1..MAIN ASSY	AWV2570
	2..FRONT_HDM_USB ASSY	AWW1412
	2..MAIN BLOCK ASSY	AWW1413
NSP	1..FUKUGO ASSY	AWV2571
	2..REAR IO ASSY	AWW1441
	2..LED ASSY	AWW1442
	2..FRONT IO ASSY	AWW1443
	2..CI CARD ASSY	AWW1444
	2..KEY ASSY	AWW1445
⚠	1..POWER SUPPLY UNIT	AXY1204

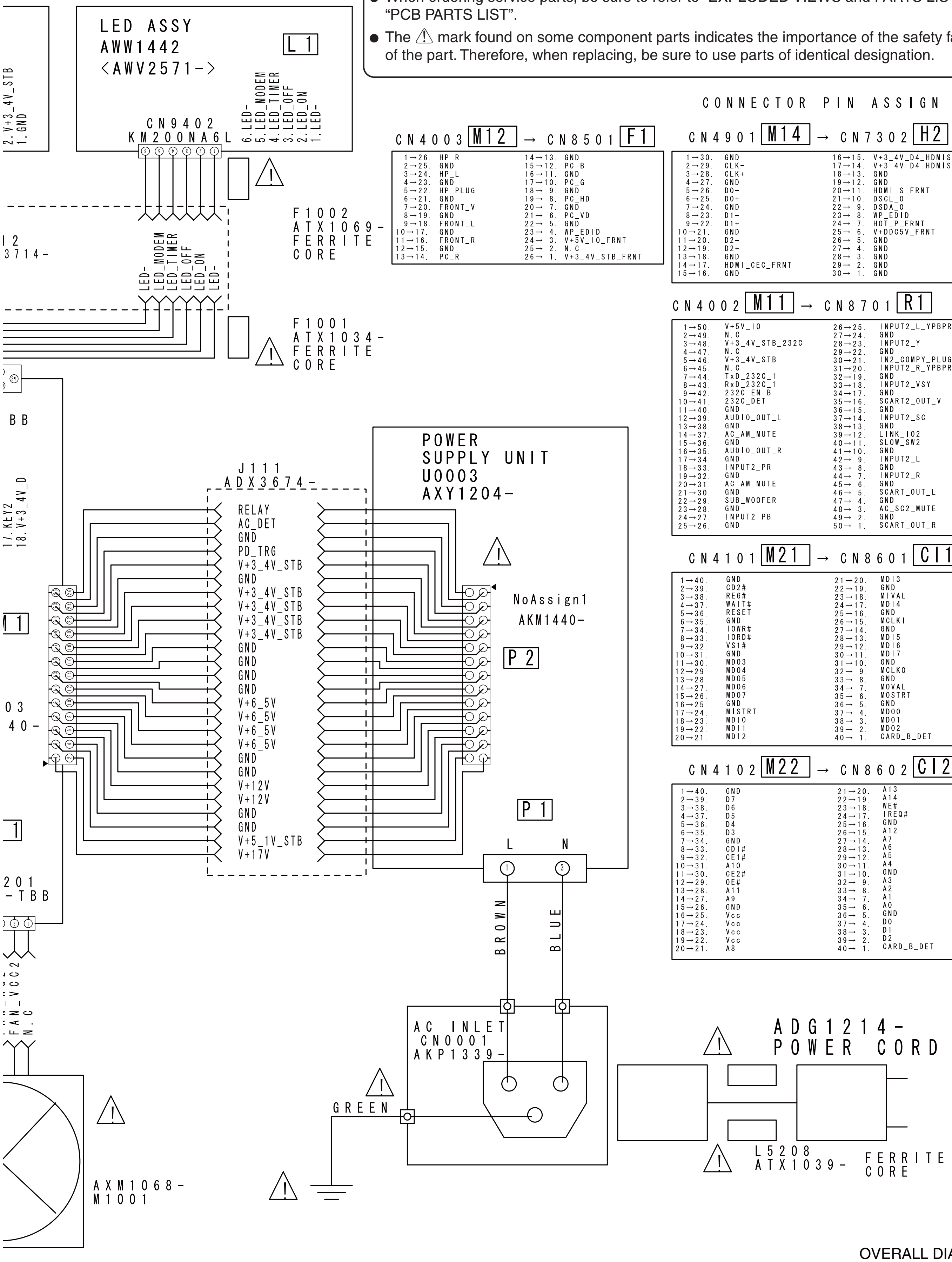
4. BLOCK DIAGRAM

4.1 OVERALL WIRING DIAGRAM



A
B
C
D
E
F
FRONT IO ASSY
AWW1443
<AWV2571->
F1
CN8501
AKM1441- -TBB
26 1
F0001
ATX1073-
FERRITE
CORE
J201
ADD1564-
1 26
CN4003
AKM1441- -TBB
M12
FRONT_HDM_USB ASSY
AWW1412
<AWV2570->
H1
H2
CN7304
AKM1291- -TBB
CN7302
AKM1442- -TBB
30 1
J102
ADX3713-
SHIELD
GND
D+
D-
VBUS
J101
ADF1042-
1 30
CN4004
AKM1276- -TBB
CN4901
AKM1442- -TBB
M13
M14
KEY ASSY
AWW1445
<AWV2571->
K1
CN9401
KM200NA7L
7.TEMP2
6.V+3_4V_D
5.GND
4.KEY2
3.KEY1
2.V+3_4V_STB
1.GND
J112
ADX3714-
TEMP2
V+3_4V_D
GND
KEY2
KEY1
V+3_4V_STB
GND
CN4204
AKM1343- -TBB
M2
3.TEMP2
4.GND
5.KEY1
6.GND
7.LED-
8.LED_TIMER
9.LED_ON
12.LED-
13.LED_OFF
14.LED_MODEM
16.V+3_4V_STB
17.KEY2
18.V+3_4V_D
LEI
AW
<A
MAIN BLOCK ASSY
AWW1413 <AWV2570->
M1
CN4203
AKM1440-
M21
M22
M11
M31
CN4101
AKM1398- -TBB
40 1
CN4102
AKM1398- -TBB
40 1
CN4002
AKM1399- -TBB
50 1
CN4201
AKM1276- -TBB
J204
ADD1566-
J205
ADD1567-
J203
ADD1565-
N.C
GND
FAN_NG2
FAN_VCC2
N.C
1 40
1 40
1 50
CN8601
AKM1398- -TBB
CN8602
AKM1398- -TBB
CN8701
AKM1399- -TBB
CI1
CI2
R1
CI_CARD ASSY
AWW1444
<AWV2571->
REAR IO ASSY
AWW1441
<AWV2571->
AXM
M10

- When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


2. V+3_4V_STB
1. GND
LED ASSY
AWW1442
<AWV2571->
L1
CN9402
KM200NA6L
6. LED-
5. LED_MODEM
4. LED_TIMER
3. LED_OFF
2. LED_ON
1. LED-
12
3714-
LED-
LED_MODEM
LED_TIMER
LED_OFF
LED_ON
LED-
F1002
ATX1069-
FERRITE
CORE
F1001
ATX1034-
FERRITE
CORE
BB
17. KEY2
18. V+3_4V_D
M1
03
40-
1
201
-TBB
FAN_VCC2
FAN_N.C
AXM1068-
M1001
J111
ADX3674-
RELAY
AC_DET
GND
PD_TRG
V+3_4V_STB
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
GND
V+12V
V+12V
GND
GND
V+5_1V_STB
V+17V
POWER
SUPPLY UNIT
U0003
AXY1204-
NoAssign1
AKM1440-
P2
P1
L
N
1
3
BROWN
BLUE
AC INLET
CN0001
AKP1339-
GREEN
ADG1214-
POWER CORD
L5208
ATX1039-
FERRITE
CORE

CONNECTOR PIN ASSIGN

CN4003 M12 → CN8501 F1

1→26.	HP_R	14→13.	GND
2→25.	GND	15→12.	PC_B
3→24.	HP_L	16→11.	GND
4→23.	GND	17→10.	PC_G
5→22.	HP_PLUG	18→ 9.	GND
6→21.	GND	19→ 8.	PC_HD
7→20.	FRONT_V	20→ 7.	GND
8→19.	GND	21→ 6.	PC_VD
9→18.	FRONT_L	22→ 5.	GND
10→17.	GND	23→ 4.	WP_EDID
11→16.	FRONT_R	24→ 3.	V+5V_IO_FRNT
12→15.	GND	25→ 2.	N.C
13→14.	PC_R	26→ 1.	V+3_4V_STB_FRNT

CN4901 M14 → CN7302 H2

1→30.	GND	16→15.	V+3_4V_D4_HDMISW_F
2→29.	CLK-	17→14.	V+3_4V_D4_HDMISW_F
3→28.	CLK+	18→13.	GND
4→27.	GND	19→12.	GND
5→26.	D0-	20→11.	HDMI_S_FRNT
6→25.	D0+	21→10.	DSCL_0
7→24.	GND	22→ 9.	DSDA_0
8→23.	D1-	23→ 8.	WP_EDID
9→22.	D1+	24→ 7.	HOT_P_FRNT
10→21.	GND	25→ 6.	V+DDC5V_FRNT
11→20.	D2-	26→ 5.	GND
12→19.	D2+	27→ 4.	GND
13→18.	GND	28→ 3.	GND
14→17.	HDMI_CEC_FRNT	29→ 2.	GND
15→16.	GND	30→ 1.	GND

CN4002 M11 → CN8701 R1

1→50.	V+5V_IO	26→25.	INPUT2_L_YPBPR
2→49.	N.C	27→24.	GND
3→48.	V+3_4V_STB_232C	28→23.	INPUT2_Y
4→47.	N.C	29→22.	GND
5→46.	V+3_4V_STB	30→21.	IN2_COMPY_PLUG
6→45.	N.C	31→20.	INPUT2_R_YPBPR
7→44.	TxD_232C_1	32→19.	GND
8→43.	RxD_232C_1	33→18.	INPUT2_VSY
9→42.	232C_EN_B	34→17.	GND
10→41.	232C_DET	35→16.	SCART2_OUT_V
11→40.	GND	36→15.	GND
12→39.	AUDIO_OUT_L	37→14.	INPUT2_SC
13→38.	GND	38→13.	GND
14→37.	AC_AM_MUTE	39→12.	LINK_IO2
15→36.	GND	40→11.	SLOW_SW2
16→35.	AUDIO_OUT_R	41→10.	GND
17→34.	GND	42→ 9.	INPUT2_L
18→33.	INPUT2_PR	43→ 8.	GND
19→32.	GND	44→ 7.	INPUT2_R
20→31.	AC_AM_MUTE	45→ 6.	GND
21→30.	GND	46→ 5.	SCART_OUT_L
22→29.	SUB_WOOFER	47→ 4.	GND
23→28.	GND	48→ 3.	AC_SC2_MUTE
24→27.	INPUT2_PB	49→ 2.	GND
25→26.	GND	50→ 1.	SCART_OUT_R

CN4101 M21 → CN8601 CI1

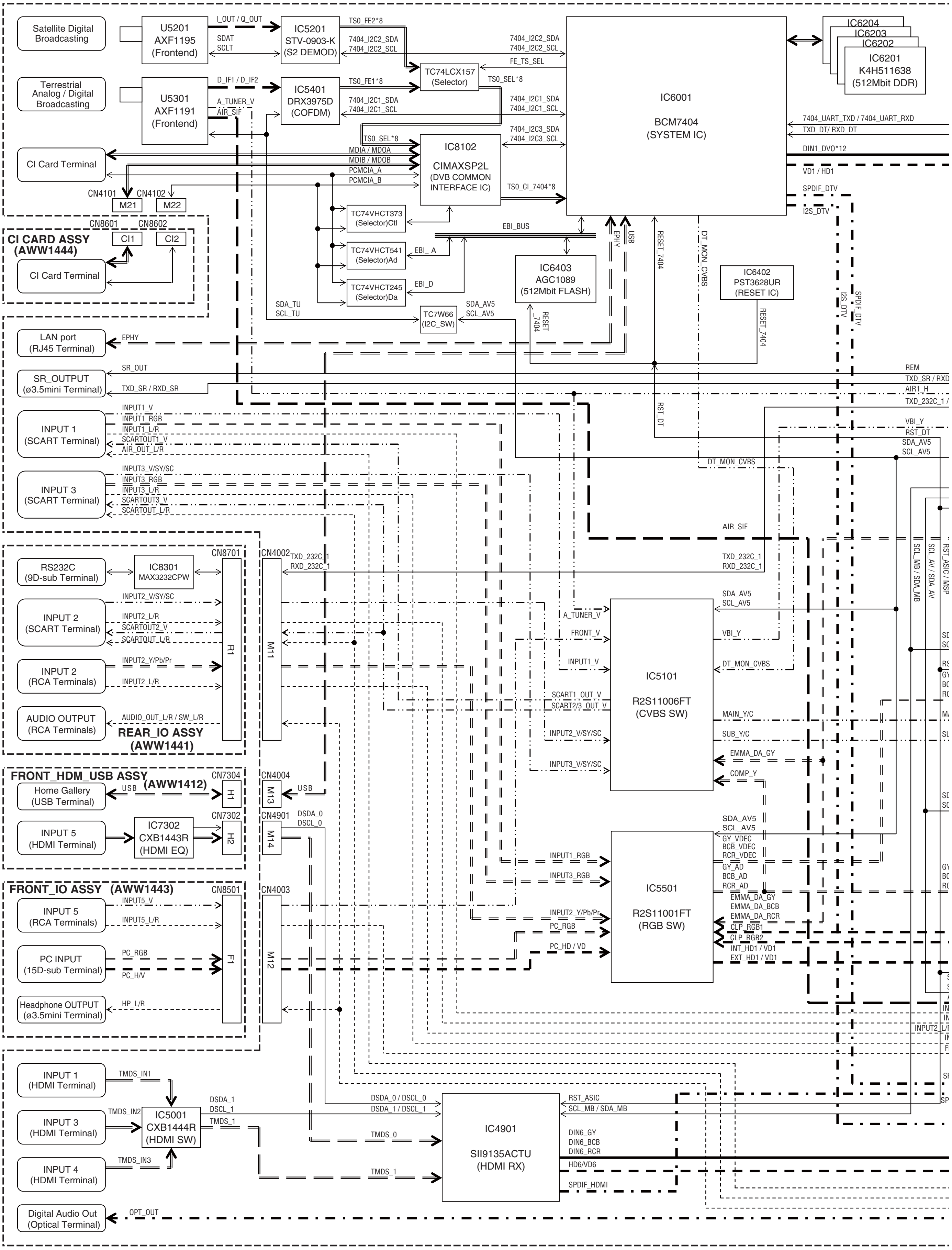
1→40.	GND	21→20.	MDI3
2→39.	CD2#	22→19.	GND
3→38.	REG#	23→18.	MIVAL
4→37.	WAIT#	24→17.	MDI4
5→36.	RESET	25→16.	GND
6→35.	GND	26→15.	MCLKI
7→34.	IOWR#	27→14.	GND
8→33.	IORD#	28→13.	MDI5
9→32.	VS1#	29→12.	MDI6
10→31.	GND	30→11.	MDI7
11→30.	MDO3	31→10.	GND
12→29.	MDO4	32→ 9.	MCLKO
13→28.	MDO5	33→ 8.	GND
14→27.	MDO6	34→ 7.	MOVAL
15→26.	MDO7	35→ 6.	MOSTRT
16→25.	GND	36→ 5.	GND
17→24.	MISTRT	37→ 4.	MDO0
18→23.	MDI0	38→ 3.	MDO1
19→22.	MDI1	39→ 2.	MDO2
20→21.	MDI2	40→ 1.	CARD_B_DET

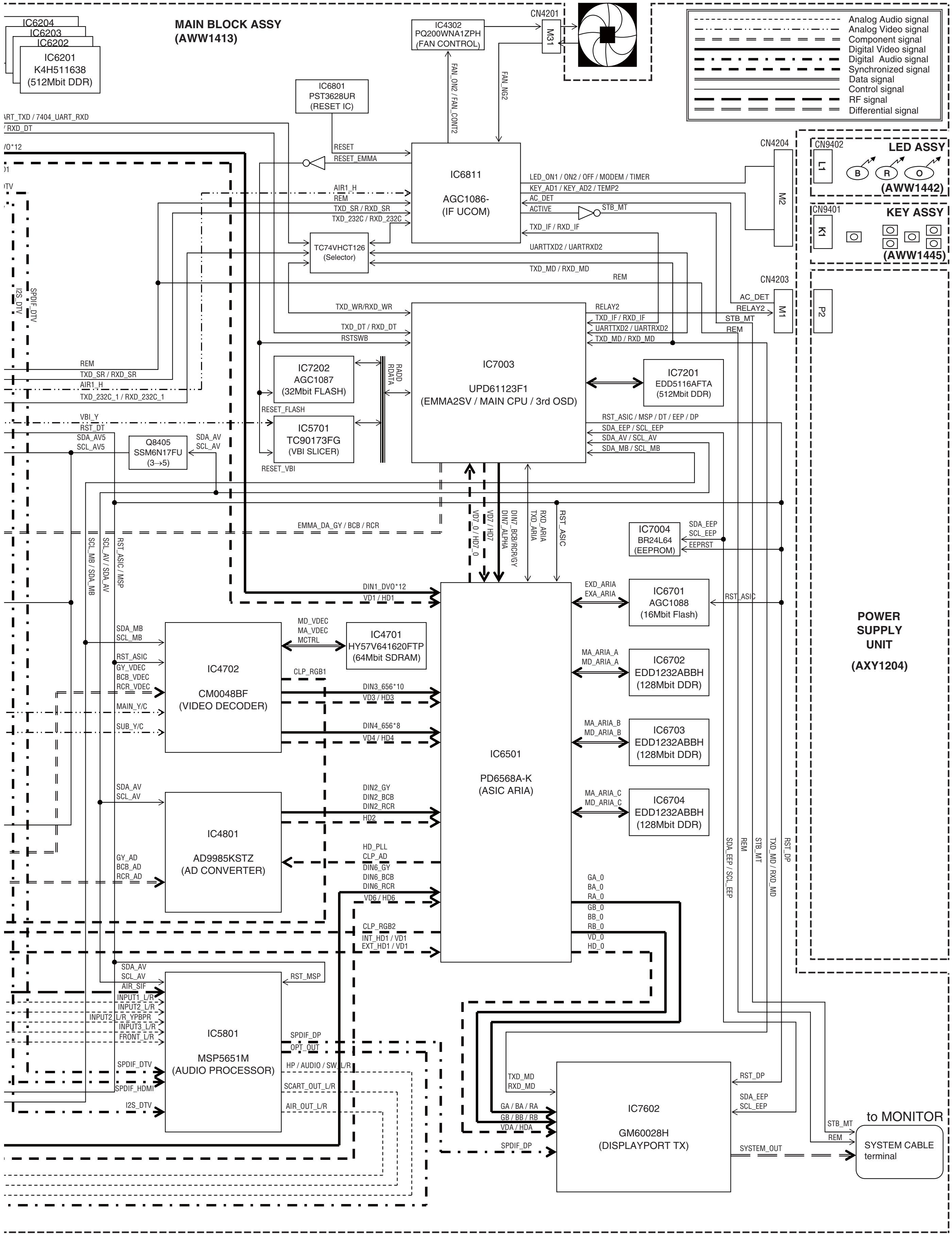
CN4102 M22 → CN8602 CI2

1→40.	GND	21→20.	A13
2→39.	D7	22→19.	A14
3→38.	D6	23→18.	WE#
4→37.	D5	24→17.	IREQ#
5→36.	D4	25→16.	GND
6→35.	D3	26→15.	A12
7→34.	GND	27→14.	A7
8→33.	CD1#	28→13.	A6
9→32.	CE1#	29→12.	A5
10→31.	A10	30→11.	A4
11→30.	CE2#	31→10.	GND
12→29.	OE#	32→ 9.	A3
13→28.	A11	33→ 8.	A2
14→27.	A9	34→ 7.	A1
15→26.	GND	35→ 6.	A0
16→25.	Vcc	36→ 5.	GND
17→24.	Vcc	37→ 4.	D0
18→23.	Vcc	38→ 3.	D1
19→22.	Vcc	39→ 2.	D2
20→21.	A8	40→ 1.	CARD_B_DET

OVERALL DIAGRAM
KRP-M01

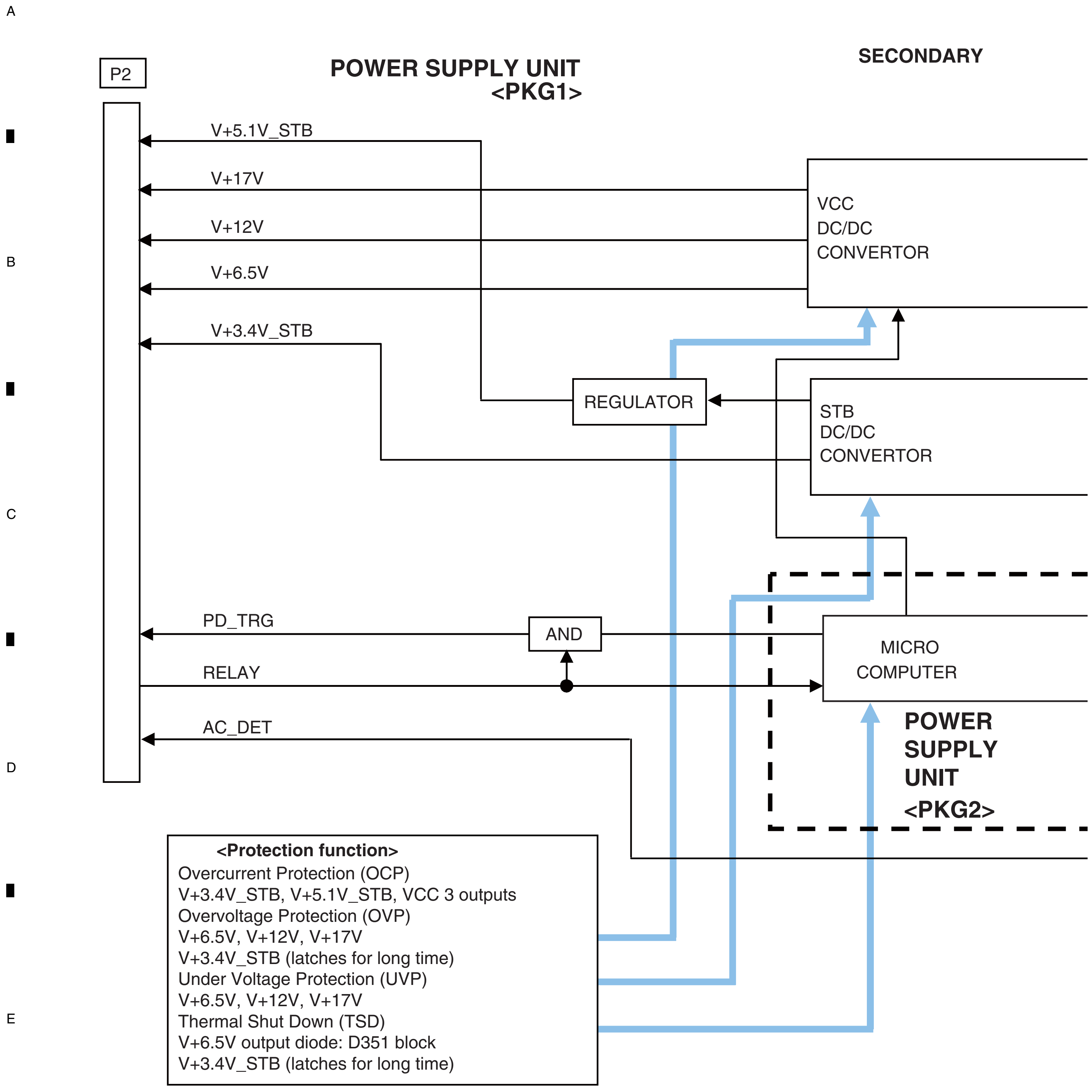
4.2 OVERALL BLOCK DIAGRAM


Satellite Digital Broadcasting
U5201
AXF1195
(Frontend)
I_OUT / Q_OUT
SDAT
SCLT
IC5201
STV-0903-K
(S2 DEMOD)
TS0_FE2*8
7404_I2C2_SDA
7404_I2C2_SCL
Terrestrial Analog / Digital Broadcasting
U5301
AXF1191
(Frontend)
D_IF1 / D_IF2
A_TUNER_V
AIR_SIF
IC5401
DRX3975D
(COFDM)
TS0_FE1*8
7404_I2C1_SDA
7404_I2C1_SCL
TC74LCX157
(Selector)
TS0_SEL*8
FE_TS_SEL
IC6001
BCM7404
(SYSTEM IC)
7404_I2C3_SDA
7404_I2C3_SCL
IC6204
IC6203
IC6202
IC6201
K4H511638
(512Mbit DDR)
7404_UART_TXD / 7404_UART_RXD
TXD_DT/ RXD_DT
DIN1_DVO*12
VD1 / HD1
SPDIF_DTV
I2S_DTV
CI Card Terminal
MDIA / MDOA
MDIB / MDOB
PCMCIA_A
PCMCIA_B
IC8102
CIMAXSP2L
(DVB COMMON INTERFACE IC)
TS0_CI_7404*8
CN4101
CN4102
M21
M22
CN8601
CN8602
CI1
CI2
CI CARD ASSY
(AWW1444)
CI Card Terminal
TC74VHCT373
(Selector)Ctl
TC74VHCT541
(Selector)Ad
EBI_A
TC74VHCT245
(Selector)Da
EBI_D
EBI_BUS
EPHY
USB
RESET_7404
DT_MON_CVBS
IC6403
AGC1089
(512Mbit FLASH)
IC6402
PST3628UR
(RESET IC)
I2S_DTV
SPDIF_DTV
SDA_TU
SCL_TU
TC7W66
(I2C_SW)
SDA_AV5
SCL_AV5
RESET_7404
LAN port
(RJ45 Terminal)
EPHY
SR_OUTPUT
(ø3.5mini Terminal)
SR_OUT
TXD_SR / RXD_SR
REM
TXD_SR / RXD
AIR1_H
TXD_232C_1 /
RST_DT
INPUT 1
(SCART Terminal)
INPUT1_V
INPUT1_RGB
INPUT1_L/R
SCARTOUT1_V
AIR_OUT_L/R
VBI_Y
RST_DT
SDA_AV5
SCL_AV5
DT_MON_CVBS
INPUT 3
(SCART Terminal)
INPUT3_V/SY/SC
INPUT3_RGB
INPUT3_L/R
SCARTOUT3_V
SCARTOUT_L/R
AIR_SIF
RS232C
(9D-sub Terminal)
IC8301
MAX3232CPW
CN8701
CN4002
TXD_232C_1
RXD_232C_1
TXD_232C_1
RXD_232C_1
SCL_MB / SDA_MB
SCL_AV / SDA_AV
RST_ASIC / MSP
INPUT 2
(SCART Terminal)
INPUT2_V/SY/SC
INPUT2_L/R
SCARTOUT2_V
SCARTOUT_L/R
R1
M11
SDA_AV5
SCL_AV5
A_TUNER_V
FRONT_V
VBI_Y
INPUT 2
(RCA Terminals)
INPUT2_Y/Pb/Pr
INPUT2_L/R
INPUT1_V
IC5101
R2S11006FT
(CVBS SW)
DT_MON_CVBS
AUDIO OUTPUT
(RCA Terminals)
AUDIO_OUT_L/R / SW_L/R
REAR_IO ASSY
(AWW1441)
SCART1_OUT_V
SCART2/3_OUT_V
MAIN_Y/C
INPUT2_V/SY/SC
SUB_Y/C
INPUT3_V/SY/SC
EMMA_DA_GY
COMP_Y
FRONT_HDM_USB ASSY
(AWW1412)
CN7304
CN4004
Home Gallery
(USB Terminal)
USB
H1
M13
USB
CN7302
CN4901
INPUT 5
(HDMI Terminal)
IC7302
CXB1443R
(HDMI EQ)
H2
M14
DSDA_0
DSCL_0
SDA_AV5
SCL_AV5
GY_VDEC
BCB_VDEC
RCR_VDEC
GY_AD
BCB_AD
RCR_AD
EMMA_DA_GY
EMMA_DA_BCB
EMMA_DA_RCR
CLP_RGB1
CLP_RGB2
INT_HD1 / VD1
EXT_HD1 / VD1
INPUT1_RGB
INPUT3_RGB
IC5501
R2S11001FT
(RGB SW)
FRONT_IO ASSY (AWW1443)
CN8501
CN4003
INPUT 5
(RCA Terminals)
INPUT5_V
INPUT5_L/R
INPUT2_Y/Pb/Pr
PC_RGB
PC_HD / VD
PC INPUT
(15D-sub Terminal)
PC_RGB
PC_H/V
F1
M12
Headphone OUTPUT
(ø3.5mini Terminal)
HP_L/R
INPUT2_L/R
INPUT 1
(HDMI Terminal)
TMDS_IN1
INPUT 3
(HDMI Terminal)
TMDS_IN2
IC5001
CXB1444R
(HDMI SW)
DSDA_1
DSCL_1
TMDS_1
DSDA_0 / DSCL_0
DSDA_1 / DSCL_1
IC4901
SII9135ACTU
(HDMI RX)
RST_ASIC
SCL_MB / SDA_MB
TMDS_0
DIN6_GY
DIN6_BCB
DIN6_RCR
HD6/VD6
INPUT 4
(HDMI Terminal)
TMDS_IN3
TMDS_1
SPDIF_HDMI
Digital Audio Out
(Optical Terminal)
OPT_OUT

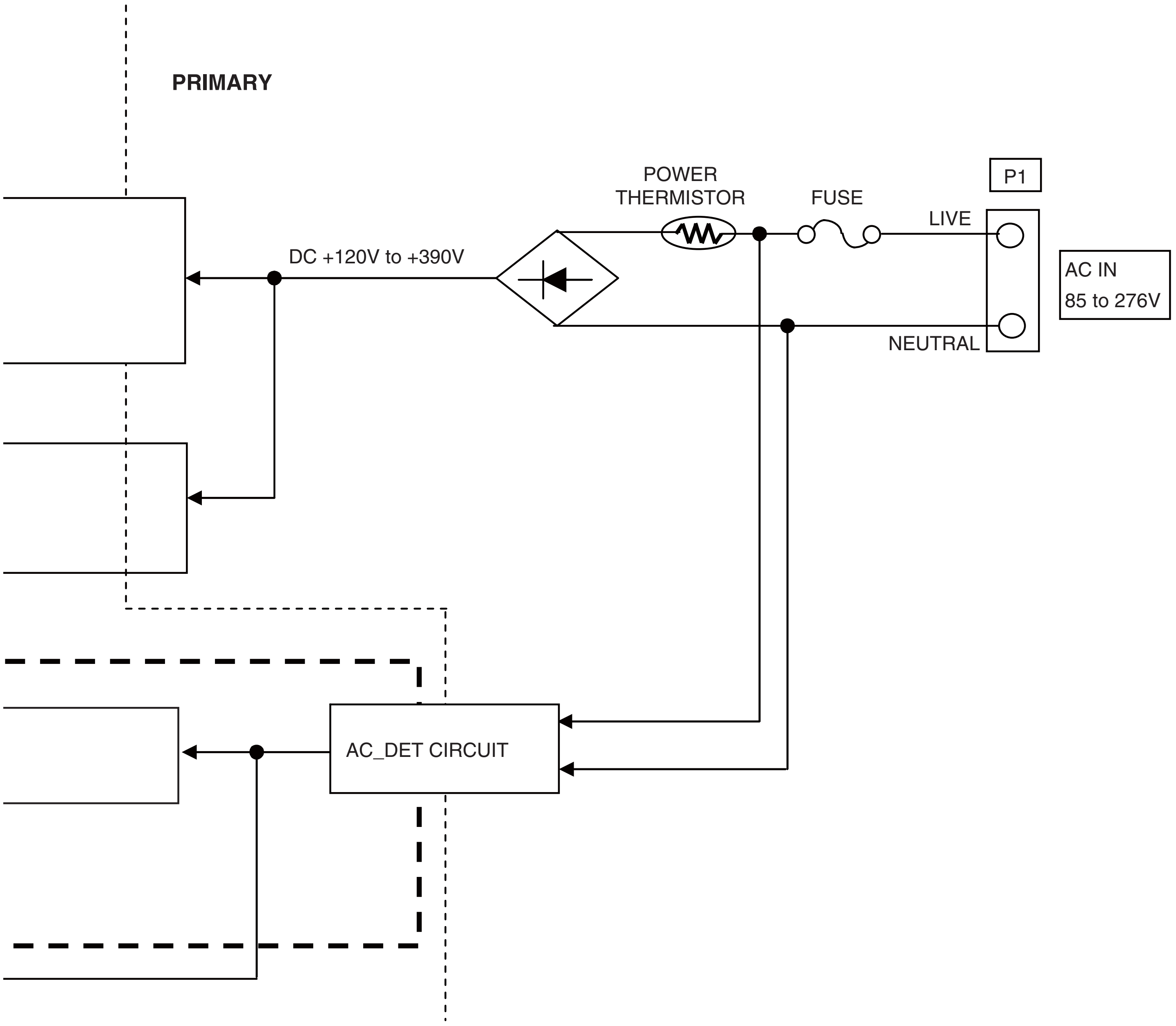

MAIN BLOCK ASSY
(AWW1413)
IC6204
IC6203
IC6202
IC6201
K4H511638
(512Mbit DDR)
IC4302
PQ200WNA1ZPH
(FAN CONTROL)
CN4201
M31
FAN_ON2 / FAN_CONT2
FAN_NG2
Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
Differential signal
IC6801
PST3628UR
(RESET IC)
RESET
RESET_EMMA
IC6811
AGC1086-
(IF UCOM)
AIR1_H
REM
TXD_SR / RXD_SR
TXD_232C / RXD_232C
LED_ON1 / ON2 / OFF / MODEM / TIMER
KEY_AD1 / KEY_AD2 / TEMP2
AC_DET
ACTIVE
STB_MT
TXD_IF / RXD_IF
UARTTXD2 / UARTRXD2
TXD_MD / RXD_MD
REM
TC74VHCT126
(Selector)
CN4204
M2
CN9402
L1
LED ASSY
B
R
O
(AWW1442)
CN9401
K1
KEY ASSY
(AWW1445)
CN4203
M1
P2
AC_DET
RELAY2
STB_MT
REM
ART_TXD / 7404_UART_RXD
/ RXD_DT
VO*12
01
DTV
I2S_DTV
SPDIF_DTV
TXD_WR/RXD_WR
TXD_DT / RXD_DT
RSTSWB
RELAY2
TXD_IF / RXD_IF
UARTTXD2 / UARTRXD2
TXD_MD / RXD_MD
IC7003
UPD61123F1
(EMMA2SV / MAIN CPU / 3rd OSD)
IC7201
EDD5116AFTA
(512Mbit DDR)
IC7202
AGC1087
(32Mbit FLASH)
RADD
RDATA
REM
TXD_SR / RXD_SR
AIR1_H
TXD_232C_1 / RXD_232C_1
RESET_FLASH
VBI_Y
RST_DT
SDA_AV5
SCL_AV5
Q8405
SSM6N17FU
(3→5)
SDA_AV
SCL_AV
IC5701
TC90173FG
(VBI SLICER)
RESET_VBI
RST_ASIC / MSP / DT / EEP / DP
SDA_EEP / SCL_EEP
SDA_AV / SCL_AV
SDA_MB / SCL_MB
EMMA_DA_GY / BCB / RCR
SCL_MB / SDA_MB
SCL_AV / SDA_AV
RST_ASIC / MSP
VD7_0 / HD7_0
VD7 / HD7
DIN7_BCB/RCR/GY
DIN7_ALPHA
RXD_ARIA
TXD_ARIA
RST_ASIC
IC7004
BR24L64
(EEPROM)
SDA_EEP
SCL_EEP
EEPRST
DIN1_DVO*12
VD1 / HD1
EXD_ARIA
EXA_ARIA
IC6701
AGC1088
(16Mbit Flash)
RST_ASIC
POWER
SUPPLY
UNIT
(AXY1204)
SDA_MB
SCL_MB
RST_ASIC
GY_VDEC
BCB_VDEC
RCR_VDEC
MAIN_Y/C
SUB_Y/C
IC4702
CM0048BF
(VIDEO DECODER)
MD_VDEC
MA_VDEC
MCTRL
IC4701
HY57V641620FTP
(64Mbit SDRAM)
CLP_RGB1
DIN3_656*10
VD3 / HD3
DIN4_656*8
VD4 / HD4
MA_ARIA_A
MD_ARIA_A
IC6702
EDD1232ABBH
(128Mbit DDR)
MA_ARIA_B
MD_ARIA_B
IC6703
EDD1232ABBH
(128Mbit DDR)
IC6501
PD6568A-K
(ASIC ARIA)
MA_ARIA_C
MD_ARIA_C
IC6704
EDD1232ABBH
(128Mbit DDR)
SDA_AV
SCL_AV
DIN2_GY
DIN2_BCB
DIN2_RCR
HD2
IC4801
AD9985KSTZ
(AD CONVERTER)
GY_AD
BCB_AD
RCR_AD
HD_PLL
CLP_AD
DIN6_GY
DIN6_BCB
DIN6_RCR
VD6 / HD6
CLP_RGB2
INT_HD1 / VD1
EXT_HD1 / VD1
GA_0
BA_0
RA_0
GB_0
BB_0
RB_0
VD_0
HD_0
SDA_EEP / SCL_EEP
REM
STB_MT
TXD_MD / RXD_MD
RST_DP
SDA_AV
SCL_AV
AIR_SIF
INPUT1_L/R
INPUT2_L/R
INPUT2_L/R_YPBPR
INPUT3_L/R
FRONT_L/R
SPDIF_DTV
SPDIF_HDMI
I2S_DTV
RST_MSP
IC5801
MSP5651M
(AUDIO PROCESSOR)
SPDIF_DP
OPT_OUT
HP / AUDIO / SW_L/R
SCART_OUT_L/R
AIR_OUT_L/R
TXD_MD
RXD_MD
GA / BA / RA
GB / BB / RB
VDA / HDA
SPDIF_DP
IC7602
GM60028H
(DISPLAYPORT TX)
RST_DP
SDA_EEP
SCL_EEP
SYSTEM_OUT
to MONITOR
STB_MT
REM
SYSTEM CABLE
terminal

OVERALL DIAGRAM
KRP-M01

4.3 POWER SUPPLY UNIT


A
B
C
D
E
P2
POWER SUPPLY UNIT <PKG1>
SECONDARY
V+5.1V_STB
V+17V
V+12V
V+6.5V
V+3.4V_STB
VCC DC/DC CONVERTOR
REGULATOR
STB DC/DC CONVERTOR
PD_TRG
AND
RELAY
MICRO COMPUTER
AC_DET
POWER SUPPLY UNIT <PKG2>

<Protection function>
Overcurrent Protection (OCP)
V+3.4V_STB, V+5.1V_STB, VCC 3 outputs
Overvoltage Protection (OVP)
V+6.5V, V+12V, V+17V
V+3.4V_STB (latches for long time)
Under Voltage Protection (UVP)
V+6.5V, V+12V, V+17V
Thermal Shut Down (TSD)
V+6.5V output diode: D351 block
V+3.4V_STB (latches for long time)

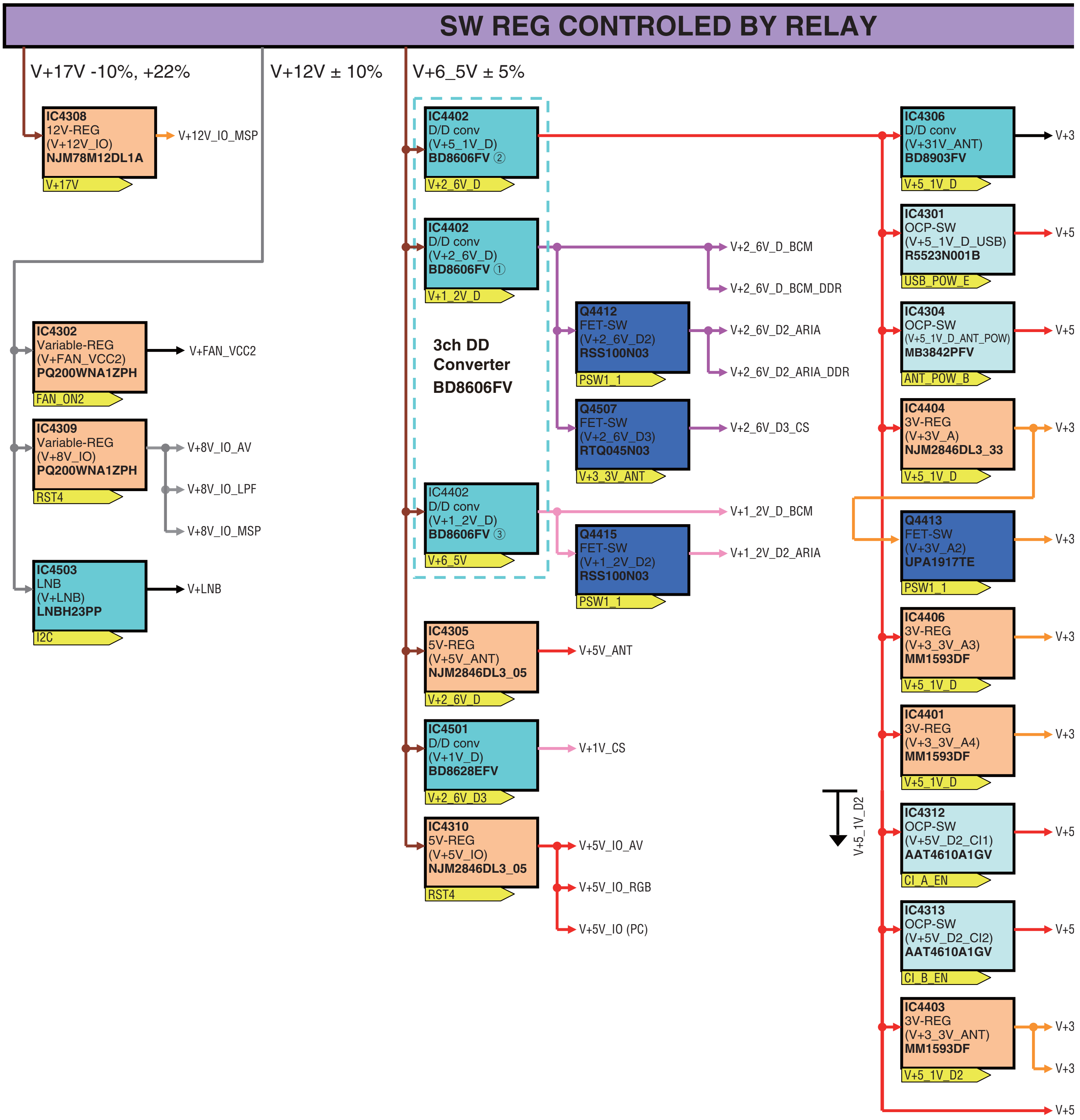

PRIMARY
POWER THERMISTOR
FUSE
P1
LIVE
NEUTRAL
AC IN
85 to 276V
DC +120V to +390V
AC_DET CIRCUIT

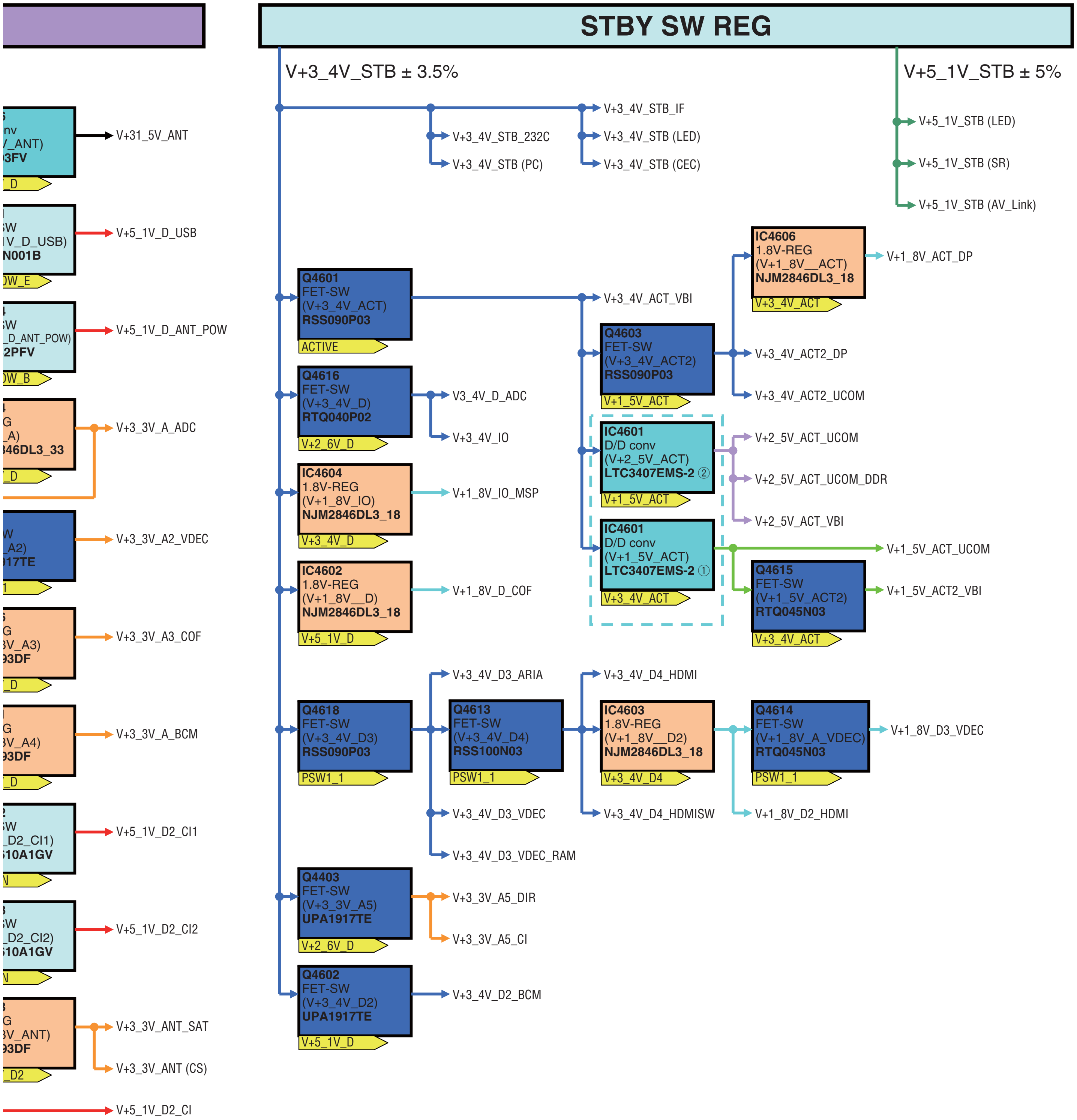
Logic Signal Specifications

[Logic level] H: STB3.4 V × (0.8 to 1.1), L: ≦ STB3.4 V × 0.2

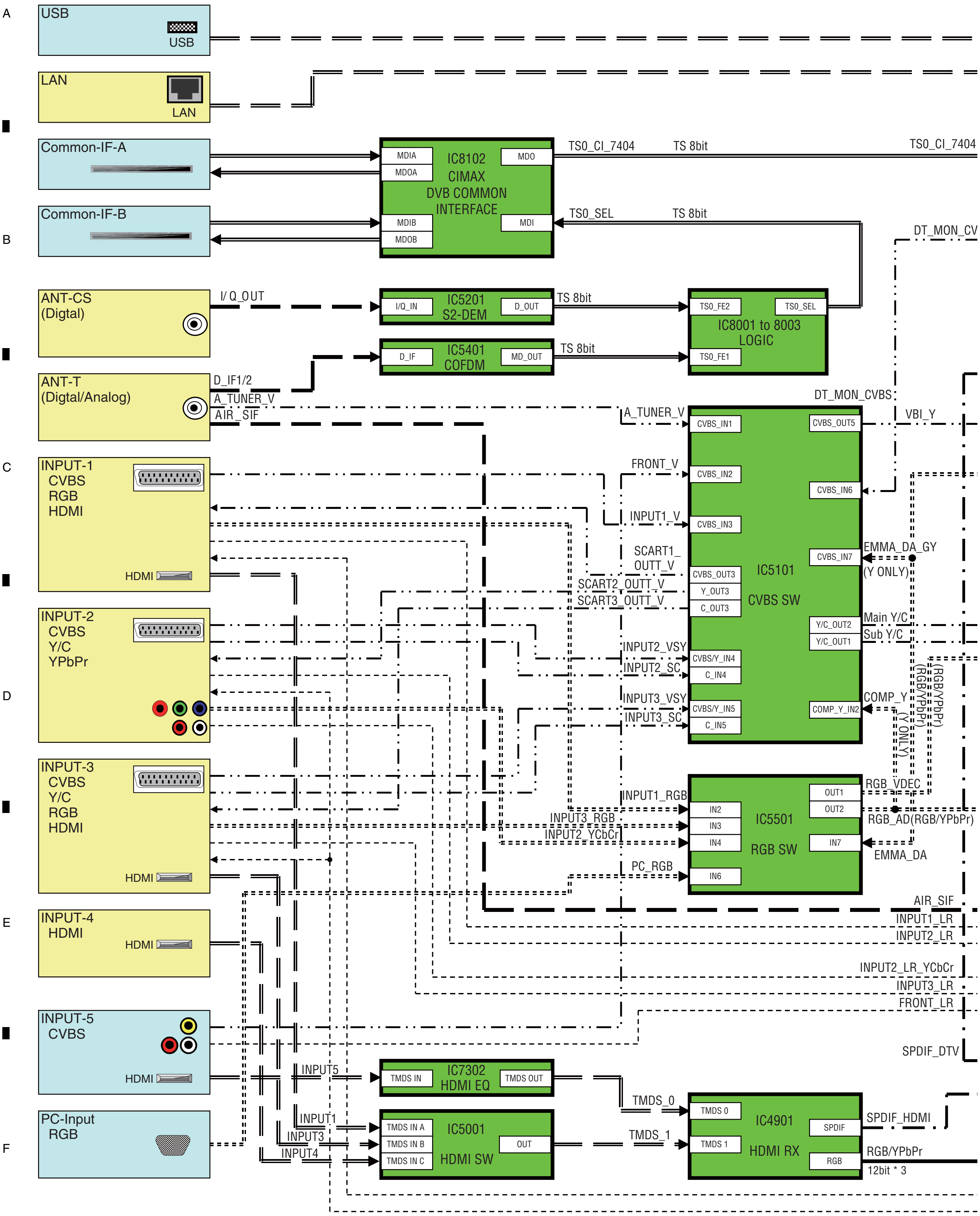
Signal Name	I/O	Function	Logic		Description
RELAY	IN	Relay ON/OFF	H	ON	For controlling ON/OFF of all output signals other than STB signals
			L	OFF	
			Open	OFF	
PD_TRG	OUT	Determination of abnormality inside the POWER SUPPLY Unit	H	Determination of abnormality	For sending a deterministic signal when an abnormality is generated inside the POWER SUPPLY Unit to shut off any output signals other than STB signals
			L	Normal	
AC_DET	OUT	AC detection	H	Present	For detecting the presence of the AC input voltage, regardless of ON/OFF of STB 3.4 V output
			L	Absent	

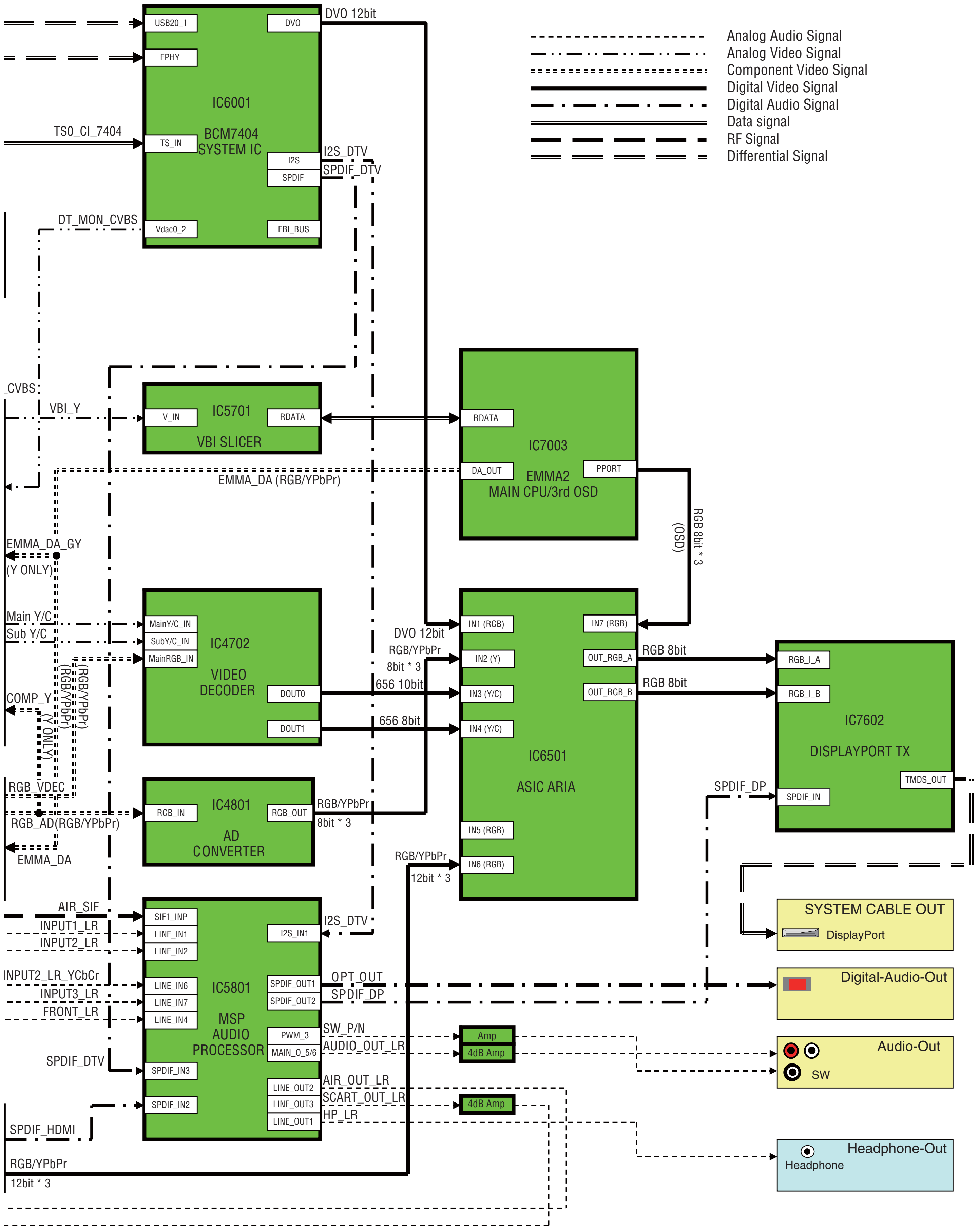
4.4 POWER SUPPLY BLOCK of MAIN BLOCK ASSY


SW REG CONTROLED BY RELAY
V+17V -10%, +22%
V+12V ± 10%
V+6_5V ± 5%
IC4308
12V-REG
(V+12V_IO)
NJM78M12DL1A
V+17V
V+12V_IO_MSP
IC4302
Variable-REG
(V+FAN_VCC2)
PQ200WNA1ZPH
FAN_ON2
V+FAN_VCC2
IC4309
Variable-REG
(V+8V_IO)
PQ200WNA1ZPH
RST4
V+8V_IO_AV
V+8V_IO_LPF
V+8V_IO_MSP
IC4503
LNB
(V+LNB)
LNBH23PP
I2C
V+LNB
IC4402
D/D conv
(V+5_1V_D)
BD8606FV ②
V+2_6V_D
IC4402
D/D conv
(V+2_6V_D)
BD8606FV ①
V+1_2V_D
3ch DD
Converter
BD8606FV
IC4402
D/D conv
(V+1_2V_D)
BD8606FV ③
V+6_5V
V+2_6V_D_BCM
V+2_6V_D_BCM_DDR
Q4412
FET-SW
(V+2_6V_D2)
RSS100N03
PSW1_1
V+2_6V_D2_ARIA
V+2_6V_D2_ARIA_DDR
Q4507
FET-SW
(V+2_6V_D3)
RTQ045N03
V+3_3V_ANT
V+2_6V_D3_CS
V+1_2V_D_BCM
Q4415
FET-SW
(V+1_2V_D2)
RSS100N03
PSW1_1
V+1_2V_D2_ARIA
IC4305
5V-REG
(V+5V_ANT)
NJM2846DL3_05
V+2_6V_D
V+5V_ANT
IC4501
D/D conv
(V+1V_D)
BD8628EFV
V+2_6V_D3
V+1V_CS
IC4310
5V-REG
(V+5V_IO)
NJM2846DL3_05
RST4
V+5V_IO_AV
V+5V_IO_RGB
V+5V_IO (PC)
V+5_1V_D2
IC4306
D/D conv
(V+31V_ANT)
BD8903FV
V+5_1V_D
V+3
IC4301
OCP-SW
(V+5_1V_D_USB)
R5523N001B
USB_POW_E
V+5
IC4304
OCP-SW
(V+5_1V_D_ANT_POW)
MB3842PFV
ANT_POW_B
V+5
IC4404
3V-REG
(V+3V_A)
NJM2846DL3_33
V+5_1V_D
V+3
Q4413
FET-SW
(V+3V_A2)
UPA1917TE
PSW1_1
V+3
IC4406
3V-REG
(V+3_3V_A3)
MM1593DF
V+5_1V_D
V+3
IC4401
3V-REG
(V+3_3V_A4)
MM1593DF
V+5_1V_D
V+3
IC4312
OCP-SW
(V+5V_D2_CI1)
AAT4610A1GV
CI_A_EN
V+5
IC4313
OCP-SW
(V+5V_D2_CI2)
AAT4610A1GV
CI_B_EN
V+5
IC4403
3V-REG
(V+3_3V_ANT)
MM1593DF
V+5_1V_D2
V+3
V+3
V+5


STBY SW REG
V+3_4V_STB ± 3.5%
V+5_1V_STB ± 5%
V+3_4V_STB_IF
V+3_4V_STB_232C
V+3_4V_STB (LED)
V+3_4V_STB (PC)
V+3_4V_STB (CEC)
V+5_1V_STB (LED)
V+5_1V_STB (SR)
V+5_1V_STB (AV_Link)
5
nv
/_ANT)
3FV
_D
V+31_5V_ANT
W
1V_D_USB)
N001B
OW_E
V+5_1V_D_USB
W
_D_ANT_POW)
2PFV
OW_B
V+5_1V_D_ANT_POW
G
_A)
46DL3_33
_D
V+3_3V_A_ADC
W
_A2)
17TE
1
V+3_3V_A2_VDEC
G
3V_A3)
93DF
_D
V+3_3V_A3_COF
G
3V_A4)
93DF
_D
V+3_3V_A_BCM
W
_D2_CI1)
10A1GV
N
V+5_1V_D2_CI1
W
_D2_CI2)
10A1GV
N
V+5_1V_D2_CI2
G
3V_ANT)
93DF
D2
V+3_3V_ANT_SAT
V+3_3V_ANT (CS)
V+5_1V_D2_CI
Q4601
FET-SW
(V+3_4V_ACT)
RSS090P03
ACTIVE
V+3_4V_ACT_VBI
Q4616
FET-SW
(V+3_4V_D)
RTQ040P02
V+2_6V_D
V3_4V_D_ADC
V+3_4V_IO
IC4604
1.8V-REG
(V+1_8V_IO)
NJM2846DL3_18
V+3_4V_D
V+1_8V_IO_MSP
IC4602
1.8V-REG
(V+1_8V__D)
NJM2846DL3_18
V+5_1V_D
V+1_8V_D_COF
IC4606
1.8V-REG
(V+1_8V__ACT)
NJM2846DL3_18
V+3_4V_ACT
V+1_8V_ACT_DP
Q4603
FET-SW
(V+3_4V_ACT2)
RSS090P03
V+1_5V_ACT
V+3_4V_ACT2_DP
V+3_4V_ACT2_UCOM
IC4601
D/D conv
(V+2_5V_ACT)
LTC3407EMS-2 ②
V+1_5V_ACT
V+2_5V_ACT_UCOM
V+2_5V_ACT_UCOM_DDR
V+2_5V_ACT_VBI
IC4601
D/D conv
(V+1_5V_ACT)
LTC3407EMS-2 ①
V+3_4V_ACT
V+1_5V_ACT_UCOM
Q4615
FET-SW
(V+1_5V_ACT2)
RTQ045N03
V+3_4V_ACT
V+1_5V_ACT2_VBI
V+3_4V_D3_ARIA
V+3_4V_D4_HDMI
Q4618
FET-SW
(V+3_4V_D3)
RSS090P03
PSW1_1
Q4613
FET-SW
(V+3_4V_D4)
RSS100N03
PSW1_1
IC4603
1.8V-REG
(V+1_8V__D2)
NJM2846DL3_18
V+3_4V_D4
Q4614
FET-SW
(V+1_8V_A_VDEC)
RTQ045N03
PSW1_1
V+1_8V_D3_VDEC
V+3_4V_D3_VDEC
V+3_4V_D4_HDMISW
V+1_8V_D2_HDMI
V+3_4V_D3_VDEC_RAM
Q4403
FET-SW
(V+3_3V_A5)
UPA1917TE
V+2_6V_D
V+3_3V_A5_DIR
V+3_3V_A5_CI
Q4602
FET-SW
(V+3_4V_D2)
UPA1917TE
V+5_1V_D
V+3_4V_D2_BCM

4.5 AV BLOCK


A
B
C
D
E
F
USB
USB
LAN
LAN
Common-IF-A
Common-IF-B
ANT-CS
(Digtal)
ANT-T
(Digtal/Analog)
INPUT-1
CVBS
RGB
HDMI
HDMI
INPUT-2
CVBS
Y/C
YPbPr
INPUT-3
CVBS
Y/C
RGB
HDMI
HDMI
INPUT-4
HDMI
HDMI
INPUT-5
CVBS
HDMI
PC-Input
RGB
MDIA
MDOA
MDIB
MDOB
IC8102
CIMAX
DVB COMMON
INTERFACE
MDO
MDI
TS0_CI_7404
TS 8bit
TS0_CI_7404
TS0_SEL
TS 8bit
DT_MON_CV
I/ Q_OUT
I/Q_IN
IC5201
S2-DEM
D_OUT
TS 8bit
TS0_FE2
TS0_SEL
IC8001 to 8003
LOGIC
TS0_FE1
D_IF1/2
D_IF
IC5401
COFDM
MD_OUT
TS 8bit
A_TUNER_V
AIR_SIF
A_TUNER_V
DT_MON_CVBS
VBI_Y
CVBS_IN1
CVBS_OUT5
FRONT_V
CVBS_IN2
CVBS_IN6
INPUT1_V
CVBS_IN3
SCART1_
OUTT_V
EMMA_DA_GY
CVBS_IN7
(Y ONLY)
IC5101
CVBS SW
CVBS_OUT3
Y_OUT3
C_OUT3
SCART2_OUTT_V
SCART3_OUTT_V
Main Y/C
Sub Y/C
Y/C_OUT2
Y/C_OUT1
INPUT2_VSY
CVBS/Y_IN4
INPUT2_SC
C_IN4
INPUT3_VSY
CVBS/Y_IN5
INPUT3_SC
C_IN5
COMP_Y
COMP_Y_IN2
(RGB/YPbPr)
(RGB/YPbPr)
(Y ONLY)
INPUT1_RGB
IN2
INPUT3_RGB
IN3
INPUT2_YCbCr
IN4
IC5501
RGB SW
OUT1
OUT2
IN7
RGB_VDEC
RGB_AD(RGB/YPbPr)
EMMA_DA
PC_RGB
IN6
AIR_SIF
INPUT1_LR
INPUT2_LR
INPUT2_LR_YCbCr
INPUT3_LR
FRONT_LR
SPDIF_DTV
INPUT5
TMDS IN
IC7302
HDMI EQ
TMDS OUT
TMDS_0
TMDS 0
IC4901
HDMI RX
SPDIF
SPDIF_HDMI
INPUT1
INPUT3
INPUT4
TMDS IN A
TMDS IN B
TMDS IN C
IC5001
HDMI SW
OUT
TMDS_1
TMDS 1
RGB
RGB/YPbPr
12bit * 3



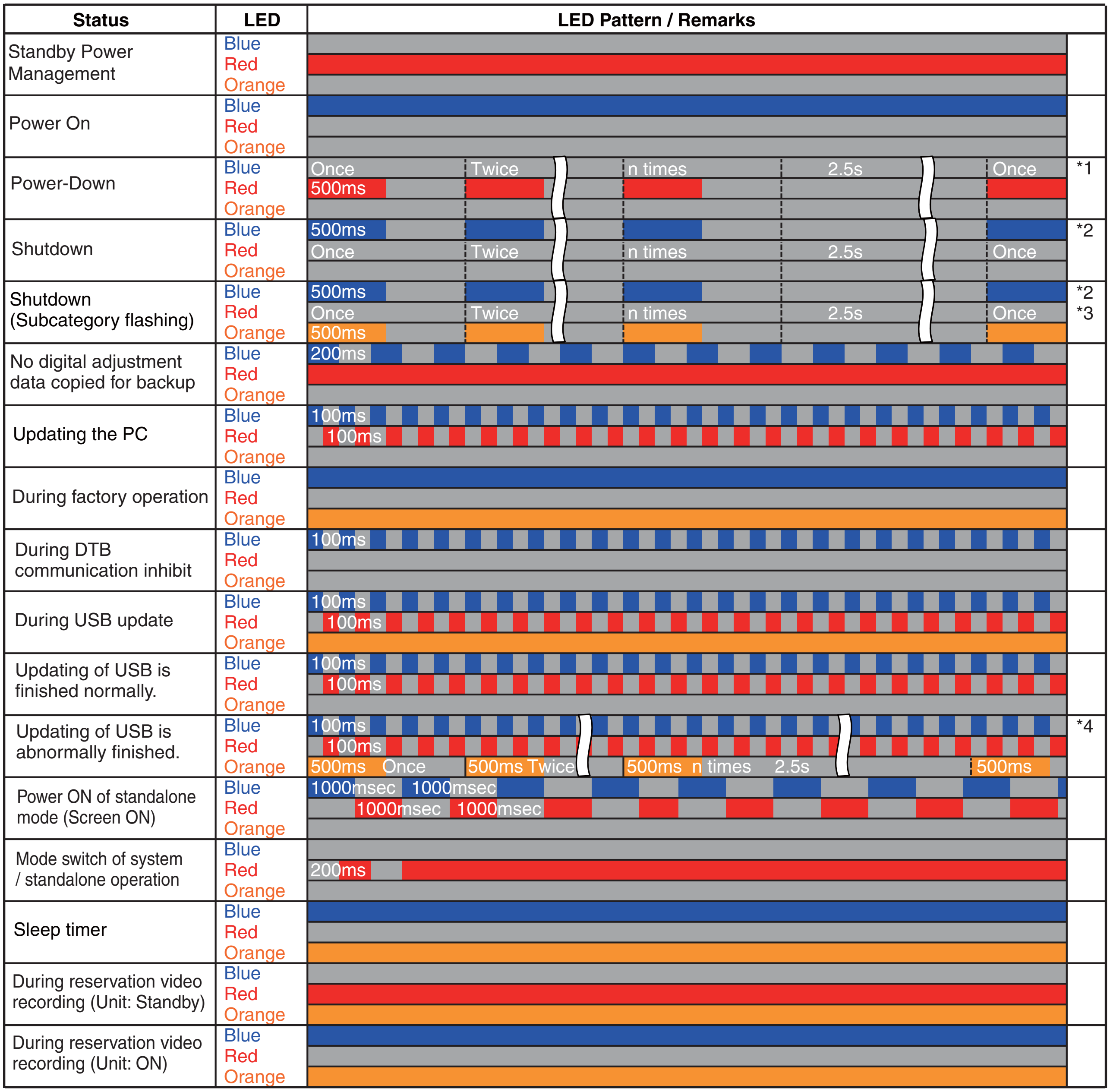
Analog Audio Signal
Analog Video Signal
Component Video Signal
Digital Video Signal
Digital Audio Signal
Data signal
RF Signal
Differential Signal
USB20_1
EPHY
TS0_CI_7404
TS_IN
IC6001
BCM7404
SYSTEM IC
DVO
DVO 12bit
I2S
SPDIF
I2S_DTV
SPDIF_DTV
DT_MON_CVBS
Vdac0_2
EBI_BUS
_CVBS
VBI_Y
V_IN
IC5701
VBI SLICER
RDATA
RDATA
IC7003
EMMA2
MAIN CPU/3rd OSD
DA_OUT
PPORT
EMMA_DA (RGB/YPbPr)
RGB 8bit * 3
(OSD)
EMMA_DA_GY
(Y ONLY)
Main Y/C
Sub Y/C
MainY/C_IN
SubY/C_IN
MainRGB_IN
IC4702
VIDEO
DECODER
DOUT0
DOUT1
COMP_Y
(RGB/YPbPr)
(RGB/YPbPr)
(Y ONLY)
DVO 12bit
RGB/YPbPr
8bit * 3
656 10bit
656 8bit
IN1 (RGB)
IN2 (Y)
IN3 (Y/C)
IN4 (Y/C)
IN5 (RGB)
IN6 (RGB)
IN7 (RGB)
OUT_RGB_A
OUT_RGB_B
IC6501
ASIC ARIA
RGB 8bit
RGB 8bit
RGB_I_A
RGB_I_B
IC7602
DISPLAYPORT TX
TMDS_OUT
SPDIF_DP
SPDIF_IN
RGB_VDEC
RGB_IN
IC4801
AD
CONVERTER
RGB_OUT
RGB/YPbPr
8bit * 3
RGB_AD(RGB/YPbPr)
EMMA_DA
RGB/YPbPr
12bit * 3
AIR_SIF
INPUT1_LR
INPUT2_LR
INPUT2_LR_YCbCr
INPUT3_LR
FRONT_LR
SIF1_INP
LINE_IN1
LINE_IN2
LINE_IN6
LINE_IN7
LINE_IN4
IC5801
MSP
AUDIO
PROCESSOR
I2S_IN1
I2S_DTV
SPDIF_OUT1
SPDIF_OUT2
OPT_OUT
SPDIF_DP
PWM_3
MAIN_O_5/6
SW_P/N
AUDIO_OUT_LR
Amp
4dB Amp
SPDIF_DTV
SPDIF_IN3
SPDIF_IN2
LINE_OUT2
LINE_OUT3
LINE_OUT1
AIR_OUT_LR
SCART_OUT_LR
HP_LR
4dB Amp
SPDIF_HDMI
RGB/YPbPr
12bit * 3
SYSTEM CABLE OUT
DisplayPort
Digital-Audio-Out
Audio-Out
SW
Headphone-Out
Headphone

5. DIAGNOSIS

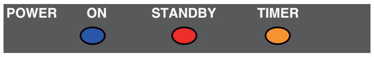
5.1 POWER SUPPLY OPERATION

[1] LED DISPLAY INFORMATION

■ LED Pattern

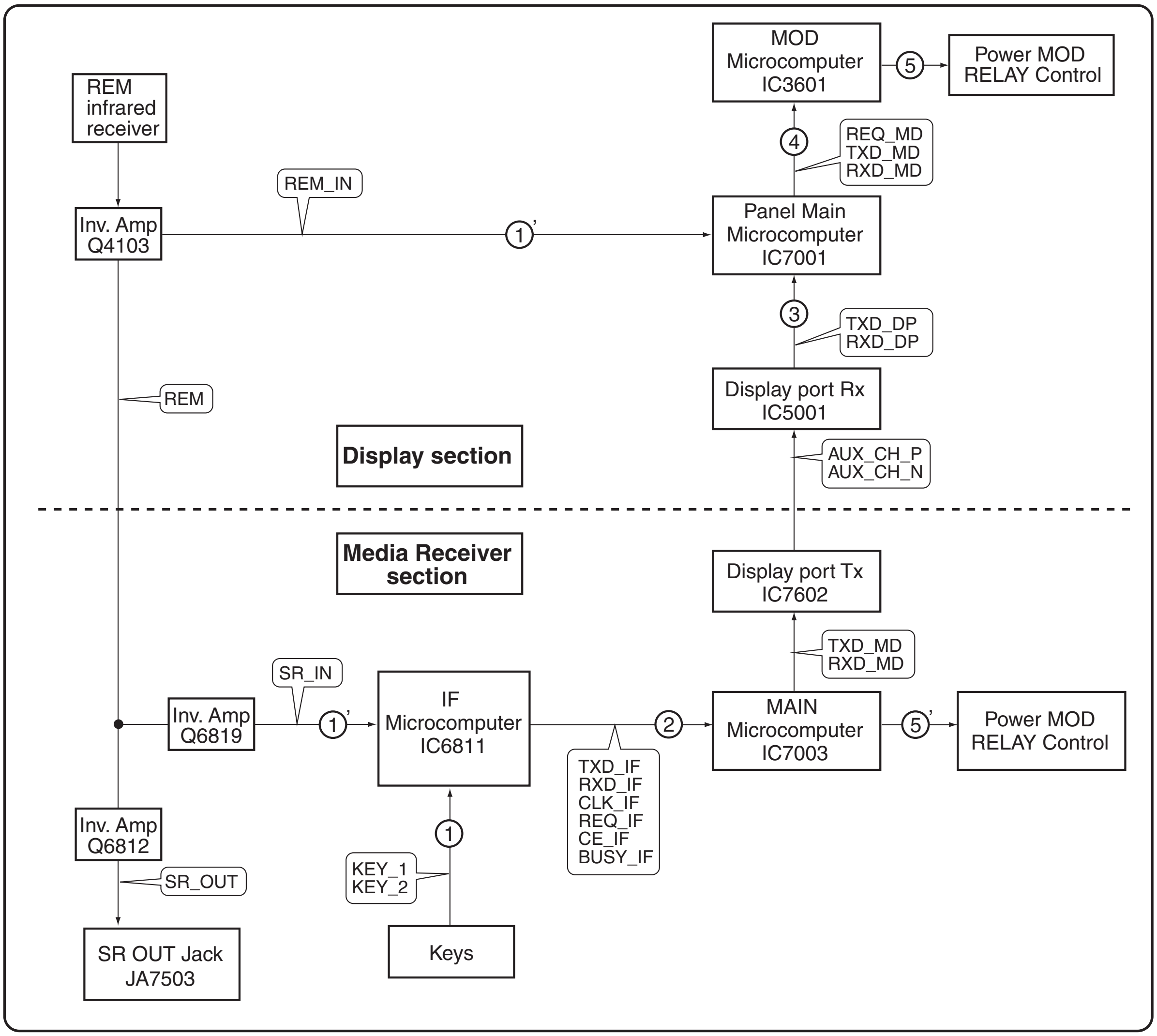


Status	LED	LED Pattern / Remarks	
Standby Power Management	Blue		
	Red	🟥	
	Orange		
Power On	Blue	🟦	
	Red		
	Orange		
Power-Down	Blue	Once Twice n times 2.5s Once	*1
	Red	500ms	
	Orange		
Shutdown	Blue	500ms	*2
	Red	Once Twice n times 2.5s Once	
	Orange		
Shutdown (Subcategory flashing)	Blue	500ms	*2
	Red	Once Twice n times 2.5s Once	*3
	Orange	500ms	
No digital adjustment data copied for backup	Blue	200ms	
	Red	🟥	
	Orange		
Updating the PC	Blue	100ms	
	Red	100ms	
	Orange		
During factory operation	Blue	🟦	
	Red		
	Orange	🟧	
During DTB communication inhibit	Blue	100ms	
	Red		
	Orange		
During USB update	Blue	100ms	
	Red	100ms	
	Orange	🟧	
Updating of USB is finished normally.	Blue	100ms	
	Red	100ms	
	Orange		
Updating of USB is abnormally finished.	Blue	100ms	*4
	Red	100ms	
	Orange	500ms Once 500ms Twice 500ms n times 2.5s 500ms	
Power ON of standalone mode (Screen ON)	Blue	1000msec 1000msec	
	Red	1000msec 1000msec	
	Orange		
Mode switch of system / standalone operation	Blue		
	Red	200ms	
	Orange		
Sleep timer	Blue	🟦	
	Red		
	Orange	🟧	
During reservation video recording (Unit: Standby)	Blue		
	Red	🟥	
	Orange	🟧	
During reservation video recording (Unit: ON)	Blue	🟦	
	Red		
	Orange	🟧	



*1: Notify upon the power-down content by Red LED flashing number of times.
*2: Notify upon the shutdown content by Blue LED flashing number of times
*3: Notify upon the subcategory number by Orange LED flashing number of times.
*4: Notify upon the abnormal state by Orange LED flashing number of times.

[2] POWER ON SEQUENCE

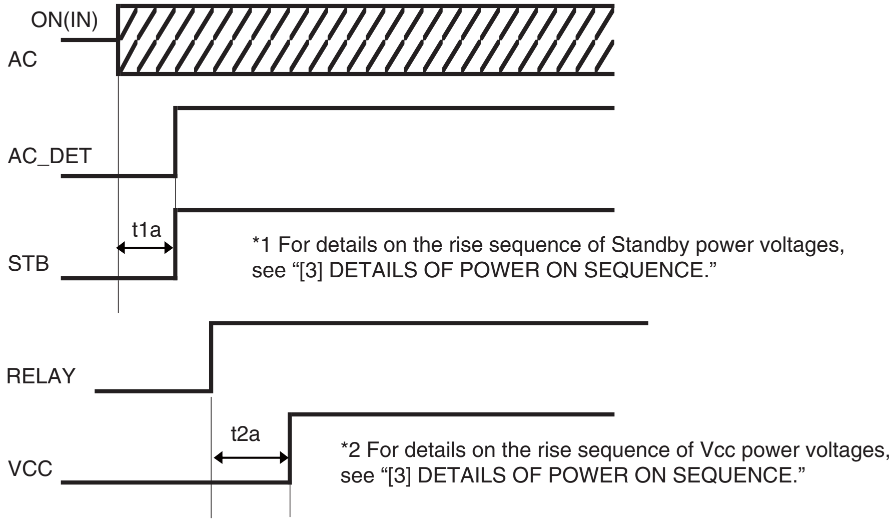

REM infrared receiver
Inv. Amp Q4103
REM_IN
①'
MOD Microcomputer IC3601
⑤
Power MOD RELAY Control
④
REQ_MD
TXD_MD
RXD_MD
Panel Main Microcomputer IC7001
③
TXD_DP
RXD_DP
Display port Rx IC5001
REM
Display section
AUX_CH_P
AUX_CH_N
Media Receiver section
Display port Tx IC7602
TXD_MD
RXD_MD
SR_IN
Inv. Amp Q6819
①'
IF Microcomputer IC6811
②
MAIN Microcomputer IC7003
⑤'
Power MOD RELAY Control
TXD_IF
RXD_IF
CLK_IF
REQ_IF
CE_IF
BUSY_IF
Inv. Amp Q6812
SR_OUT
①
KEY_1
KEY_2
SR OUT Jack JA7503
Keys

① : The KEY signal is input to the IF microcomputer.
①' : The remote control signal is input to the IF microcomputer and Panel main microcomputer.
② : The IF microcomputer sends the operation data of the remote control unit key to the main microcomputer.
③ : The main microcomputer issues a startup command (PON) to the panel main microcomputer through DP Tx and DP Rx.
④ : The panel main microcomputer issues a startup command (PON) to the MOD microcomputer.
⑤ : The MOD microcomputer controls a MOD relay of the POWER SUPPLY Unit (Display section), then the power is turned on.
⑤' : The main microcomputer controls a MOD relay of the POWER SUPPLY Unit (Media Receiver section), then the power is turned on.

OUTLINE OF POWER ON SEQUENCE

The rise of the output voltage is defined as the point at which 10% output voltage is reached, and the fall is defined as the output supply stop point.

Sequence of AC ON (IN)



*1 For details on the rise sequence of Standby power voltages, see “[3] DETAILS OF POWER ON SEQUENCE.”

*2 For details on the rise sequence of Vcc power voltages, see “[3] DETAILS OF POWER ON SEQUENCE.”

(a) Relay signal: When the POWER key on the remote control unit is pressed after that on the unit is set to ON

AC ON	
Item	**Specified Time**
AC to STB	t1a ≦ 0.8s
RELAY to VCC	t2a ≦ 0.5s

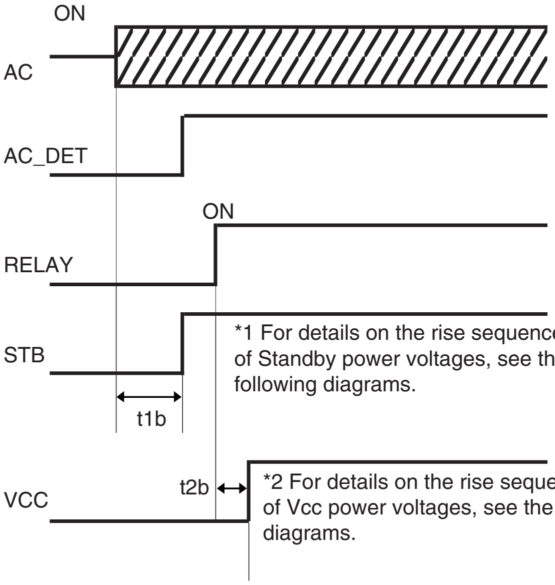
(b) Relay signal: When the POWER key on the remote control unit is pressed while the unit is OFF (in Standby mode)

AC ON	
Item	**Specified Time**
AC to STB	t1a ≦ 0.8s
Relay to VCC	t2a No specification

[3] DETAILS OF POWER ON SEQUENCE

The rise of the output voltage is defined as the point at which 10% output voltage is reached.

1. Sequence of Relay ON (IN)

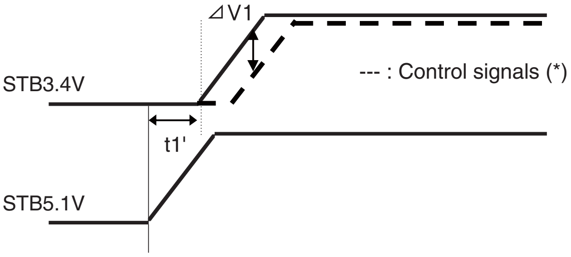


*1 For details on the rise sequences of Standby power voltages, see the following diagrams.

*2 For details on the rise sequences of Vcc power voltages, see the following diagrams.

Relay ON	
Item	**Specified Time**
AC to STB	t1b ≦ 0.8s
RELAY to VCC	t2b ≦ 0.5s

2. Rise sequence of Standby power voltages

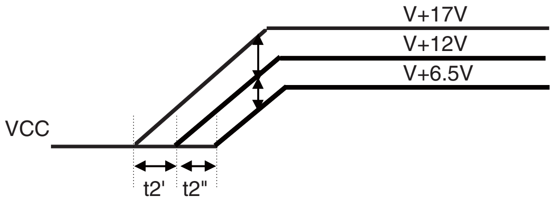


<Specified time and difference of voltages>

Rise	
Item	**Specified Time**
STB5.1V to STB3.4V	-50ms ≦ t1' ≦ 50ms
Item	**Specified difference of voltages**
STB3.4V - Control signal (*)	0 V ≦ ∆V 1

(*) Control signals (output signals) denote AC_DET and PD_TRG signals.

3. Rise sequences of Vcc power voltages



<Specified time of voltages>

Rise	
Item	**Specified time (at nominal load)**
V+17V to V+12V	0ms ≦ t2' ≦ 10ms
V+12V to V+6.5V	0ms ≦ t2" ≦ 10ms

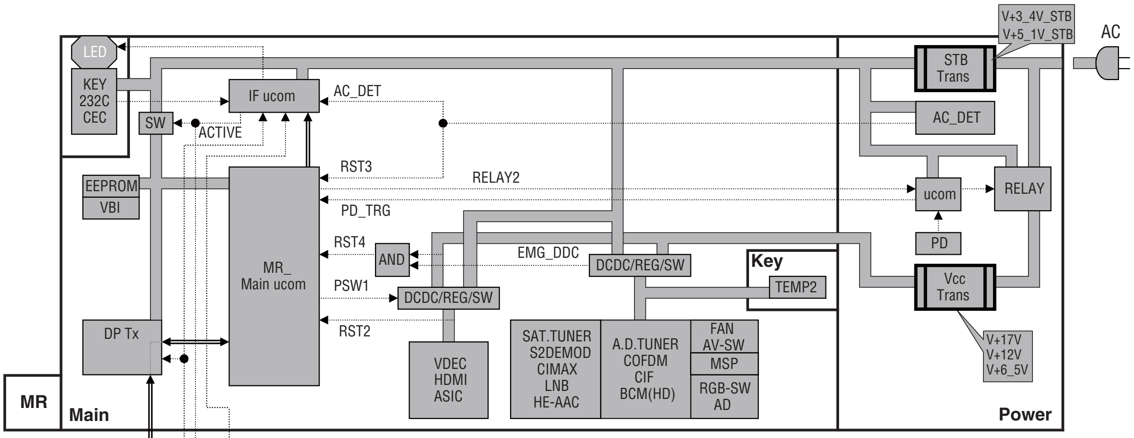
4. Specifications of the rise time of the output voltages (common to all sequences)

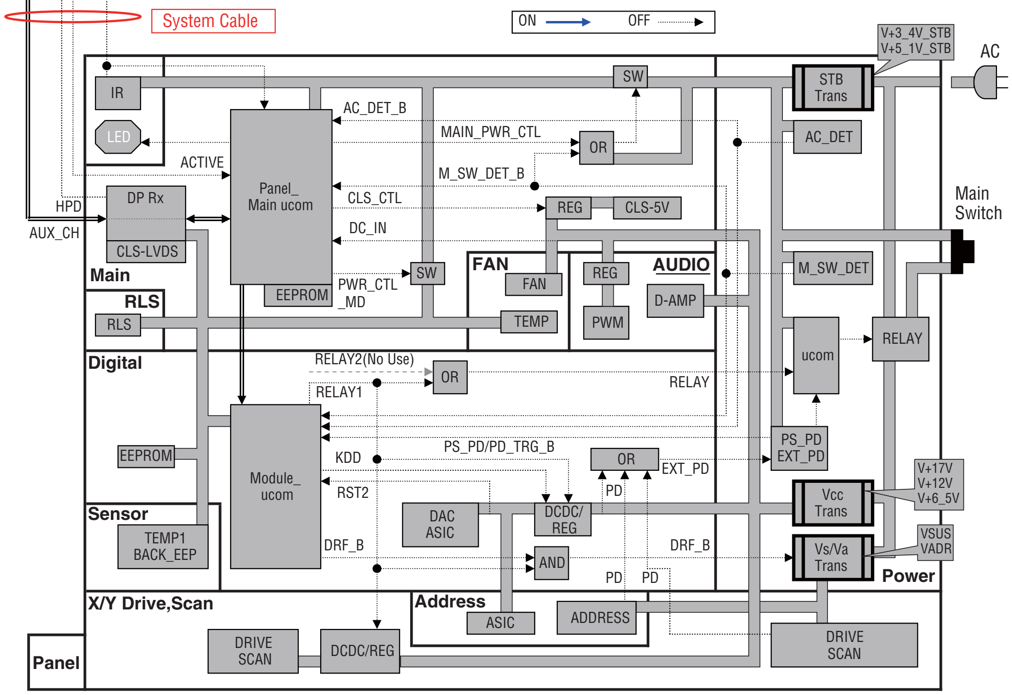
Note that there must not be any temporary voltage drop during rising.

Rise time (time required for reaching from 10% to 90% output voltage)	
Item	**Specified time**
STB 10% to STB 90%	tr_STB ≦ 100ms
VCC 10% to VCC 90%	tr_VCC ≦ 200ms

DETAILS OF POWER ON SEQUENCE

AC-OFF


LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
RST3
RELAY2
EEPROM
VBI
PD_TRG
RST4
AND
EMG_DDC
DCDC/REG/SW
MR_
Main ucom
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
MR
Main
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Power


System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
IR
LED
SW
STB
Trans
AC_DET_B
MAIN_PWR_CTL
OR
AC_DET
ACTIVE
Panel_
Main ucom
M_SW_DET_B
Main
Switch
HPD
DP Rx
CLS_CTL
REG
CLS-5V
AUX_CH
DC_IN
CLS-LVDS
Main
EEPROM
PWR_CTL
_MD
SW
FAN
FAN
REG
AUDIO
D-AMP
M_SW_DET
RLS
RLS
TEMP
PWM
ucom
RELAY
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
PS_PD
EXT_PD
Module_
ucom
RST2
PD
DAC
ASIC
DCDC/
REG
Vcc
Trans
V+17V
V+12V
V+6_5V
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
PD
PD
Vs/Va
Trans
VSUS
VADR
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

All devices are not electrified.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	OFF
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

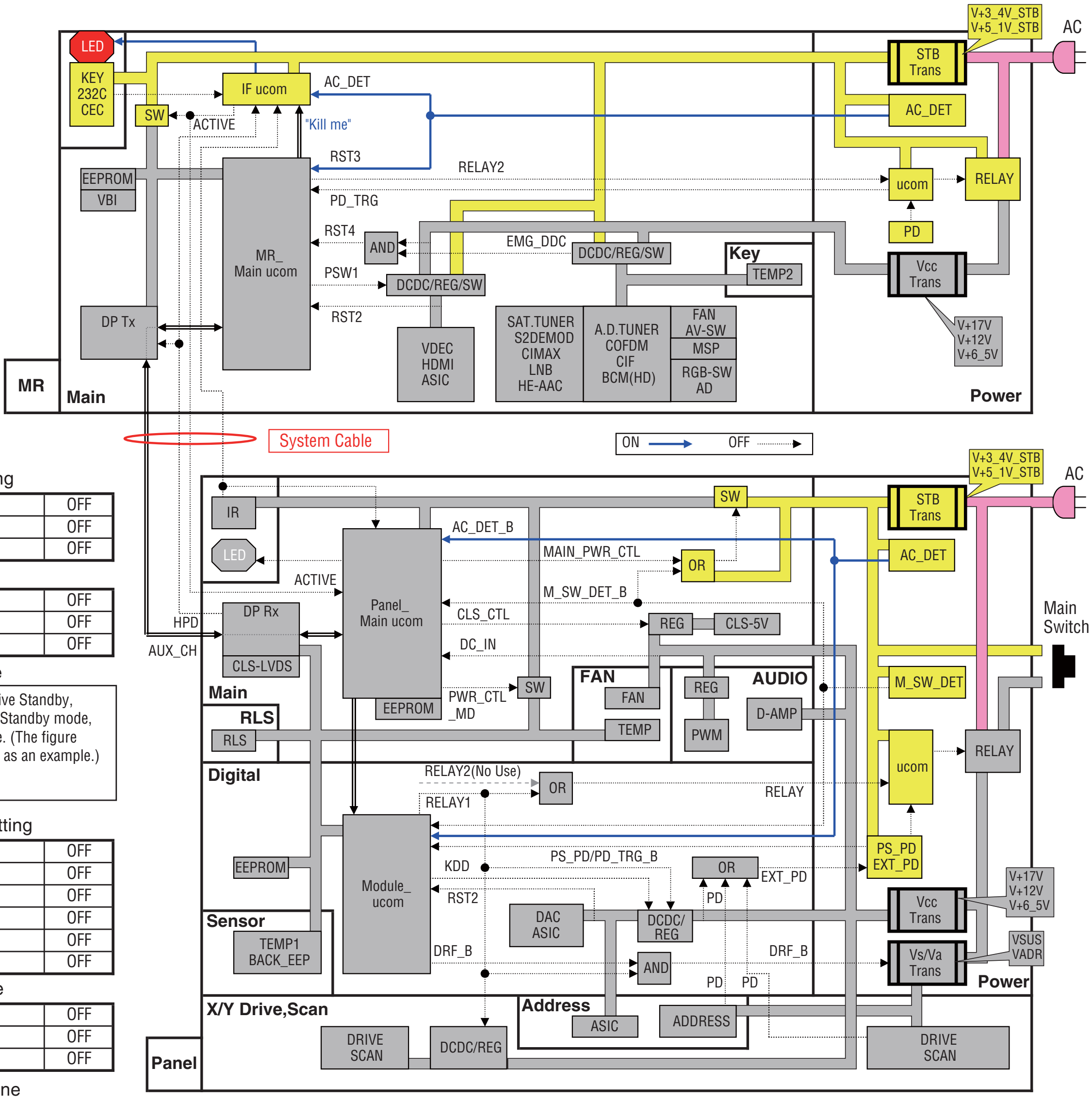
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

All devices are not electrified.

Panel Main Power OFF



LED
KEY
232C
CEC
SW
IF ucom
ACTIVE
AC_DET
"Kill me"
RST3
RELAY2
EEPROM
VBI
PD_TRG
RST4
AND
EMG_DDC
DCDC/REG/SW
Key
TEMP2
MR_
Main ucom
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
MR
Main
Power
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
System Cable
ON
OFF
IR
LED
AC_DET_B
SW
MAIN_PWR_CTL
OR
M_SW_DET_B
ACTIVE
Panel_
Main ucom
CLS_CTL
REG
CLS-5V
HPD
DP Rx
AUX_CH
DC_IN
CLS-LVDS
Main
EEPROM
PWR_CTL
_MD
SW
FAN
FAN
TEMP
REG
PWM
AUDIO
D-AMP
RLS
RLS
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
Module_
ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
PD
RST2
DAC
ASIC
DCDC/
REG
AND
DRF_B
DRF_B
PD
PD
Sensor
TEMP1
BACK_EEP
X/Y Drive,Scan
DRIVE
SCAN
DCDC/REG
Address
ASIC
ADDRESS
DRIVE
SCAN
Panel
Main
Switch
M_SW_DET
PS_PD
EXT_PD
VSUS
VADR
Vs/Va
Trans
Power

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

The unit will enter either Passive Standby, Active Standby, or Functional Standby mode, according to the circumstance. (The figure shows Passive Standby mode as an example.)

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	OFF
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

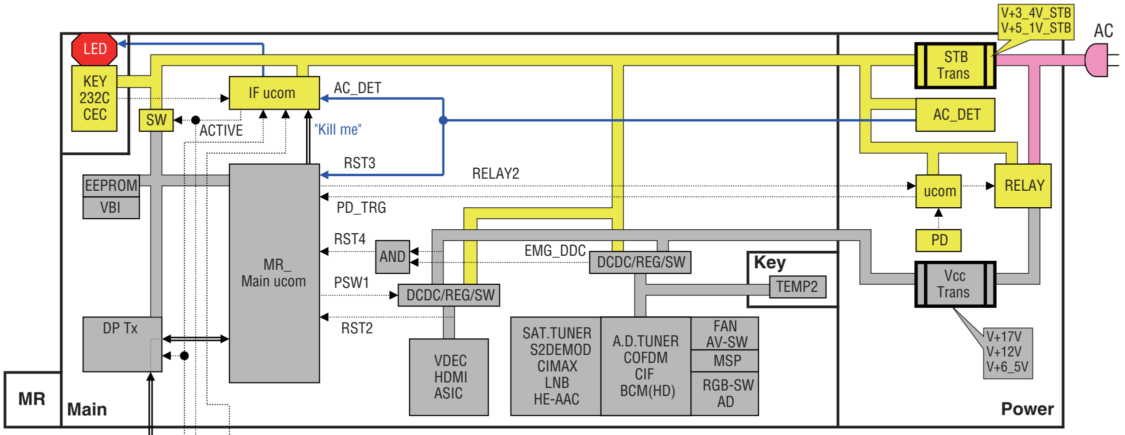
(Panel) Input port state

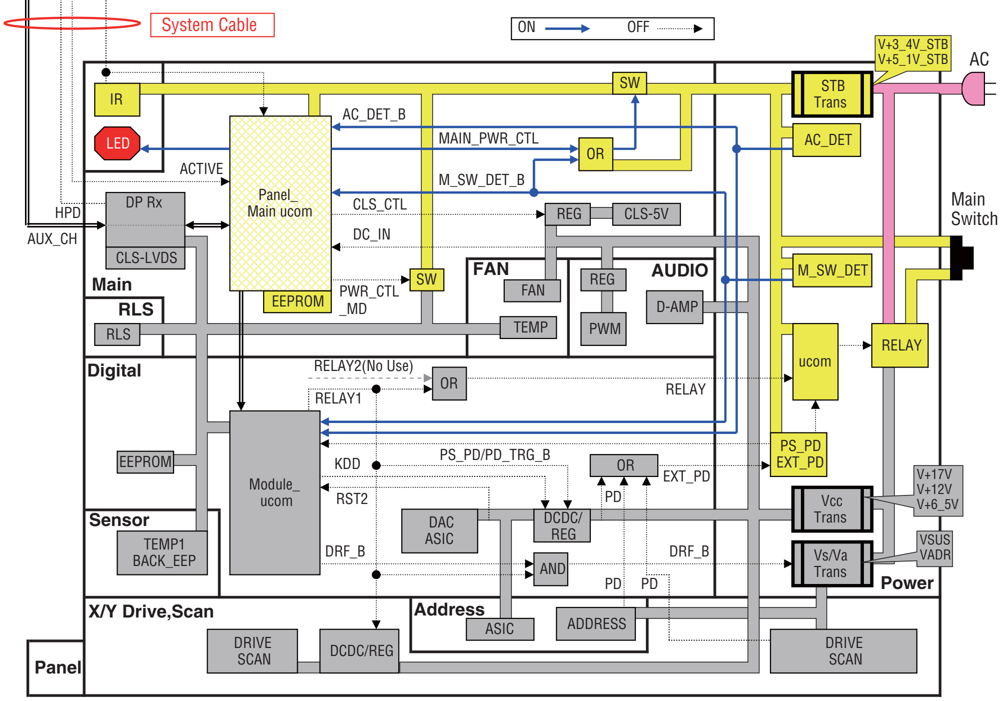
Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Standby power is supplied from the Power Assy, but power to each device is interrupted.

Passive Standby


LED
KEY
232C
CEC
SW
ACTIVE
IF ucom
AC_DET
"Kill me"
RST3
RELAY2
PD_TRG
EEPROM
VBI
MR_
Main ucom
RST4
AND
EMG_DDC
DCDC/REG/SW
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
MR
Main
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Power


System Cable
ON
OFF
IR
LED
ACTIVE
Panel_
Main ucom
AC_DET_B
MAIN_PWR_CTL
M_SW_DET_B
CLS_CTL
DC_IN
PWR_CTL
_MD
EEPROM
SW
OR
SW
REG
CLS-5V
HPD
AUX_CH
DP Rx
CLS-LVDS
Main
RLS
RLS
FAN
FAN
TEMP
REG
AUDIO
D-AMP
PWM
Digital
RELAY2(No Use)
RELAY1
OR
RELAY
EEPROM
Module_
ucom
KDD
PS_PD/PD_TRG_B
RST2
OR
EXT_PD
PD
DAC
ASIC
DCDC/
REG
AND
DRF_B
DRF_B
PD
PD
Sensor
TEMP1
BACK_EEP
X/Y Drive,Scan
DRIVE
SCAN
DCDC/REG
Address
ASIC
ADDRESS
DRIVE
SCAN
Panel
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
Main
Switch
M_SW_DET
ucom
RELAY
PS_PD
EXT_PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Vs/Va
Trans
VSUS
VADR
Power

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

Only the periphery of the IF microcomputer are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

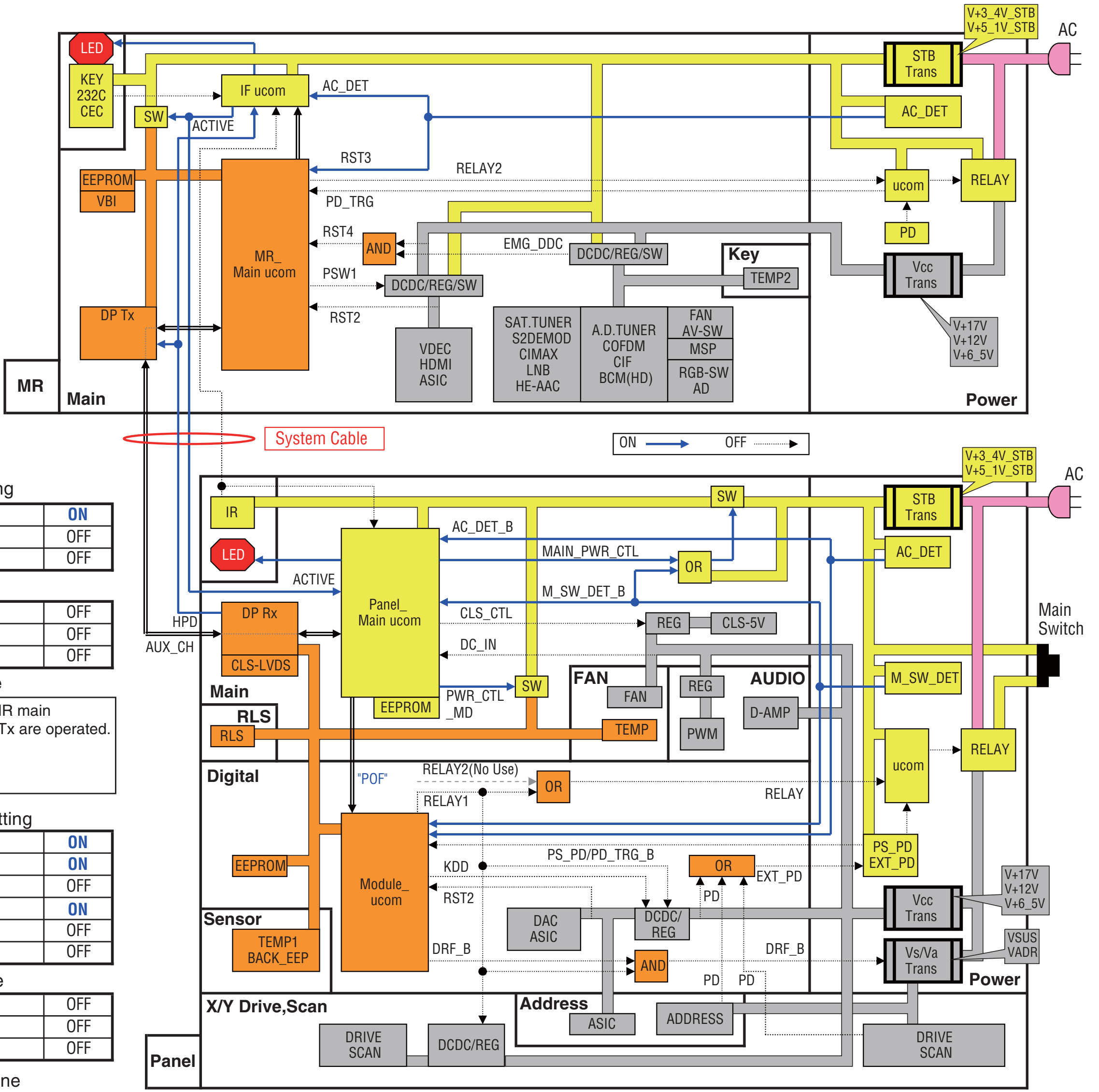
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Only the periphery of the Panel main microcomputer and IR are operated.
In this time, panel main microcomputer is the sleep mode.

Active Standby


V+3_4V_STB
V+5_1V_STB
AC
STB Trans
AC_DET
RELAY
ucom
PD
Vcc Trans
V+17V
V+12V
V+6_5V
Key
TEMP2
Power
LED
KEY
232C
CEC
SW
IF ucom
ACTIVE
AC_DET
RST3
RELAY2
PD_TRG
EEPROM
VBI
RST4
AND
EMG_DDC
DCDC/REG/SW
MR_
Main ucom
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
MR
Main
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
IR
SW
STB Trans
AC_DET_B
AC_DET
LED
MAIN_PWR_CTL
OR
ACTIVE
Panel_
Main ucom
M_SW_DET_B
Main Switch
HPD
DP Rx
CLS_CTL
REG
CLS-5V
AUX_CH
CLS-LVDS
DC_IN
Main
FAN
AUDIO
M_SW_DET
FAN
REG
SW
PWR_CTL
_MD
D-AMP
EEPROM
RLS
RLS
TEMP
PWM
RELAY
ucom
Digital
"POF"
RELAY2(No Use)
OR
RELAY
RELAY1
PS_PD/PD_TRG_B
PS_PD
EXT_PD
EEPROM
KDD
OR
EXT_PD
Module_
ucom
RST2
PD
DAC
ASIC
DCDC/
REG
V+17V
V+12V
V+6_5V
Vcc Trans
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
Vs/Va
Trans
VSUS
VADR
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	ON
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

Periphery of the IF and MR main microcomputers and DP Tx are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	ON
Panel Main: CLS_CTL	OFF
DP Rx: HPD	ON
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

(Panel) Input port state

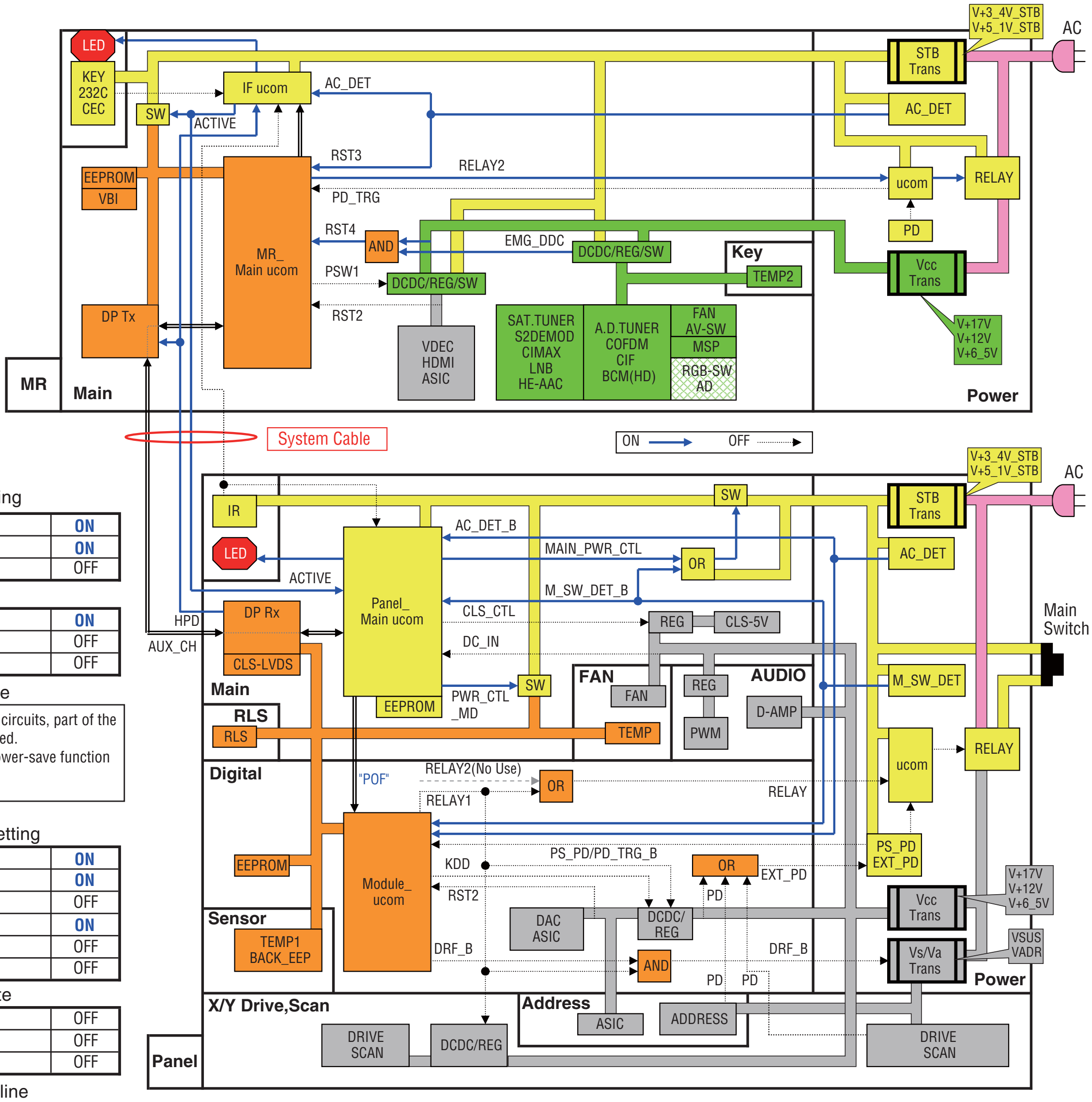
Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Periphery of the Panel main microcomputer, IR, DP Rx and module microcomputer are operated.

A

Function Standby


V+3_4V_STB
V+5_1V_STB
AC
LED
KEY 232C CEC
SW
IF ucom
AC_DET
ACTIVE
RST3
RELAY2
EEPROM
VBI
PD_TRG
MR_ Main ucom
RST4
AND
EMG_DDC
DCDC/REG/SW
PSW1
DCDC/REG/SW
Key
TEMP2
RST2
DP Tx
VDEC HDMI ASIC
SAT.TUNER S2DEMOD CIMAX LNB HE-AAC
A.D.TUNER COFDM CIF BCM(HD)
FAN AV-SW
MSP
RGB-SW AD
STB Trans
AC_DET
ucom
RELAY
PD
Vcc Trans
V+17V V+12V V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
SW
IR
AC_DET_B
MAIN_PWR_CTL
OR
STB Trans
AC_DET
LED
ACTIVE
Panel_ Main ucom
M_SW_DET_B
Main Switch
DP Rx
HPD
CLS_CTL
REG
CLS-5V
AUX_CH
DC_IN
CLS-LVDS
Main
SW
FAN
REG
AUDIO
M_SW_DET
FAN
RLS
EEPROM
PWR_CTL _MD
D-AMP
RLS
TEMP
PWM
ucom
RELAY
Digital
"POF"
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
PS_PD/PD_TRG_B
PS_PD EXT_PD
KDD
OR
EXT_PD
Module_ ucom
RST2
PD
V+17V V+12V V+6_5V
Sensor
DAC ASIC
DCDC/ REG
Vcc Trans
TEMP1 BACK_EEP
DRF_B
AND
DRF_B
VSUS VADR
Vs/Va Trans
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN
Panel

B

C

(MR) Output port setting

IF: ACTIVE	ON
MR Main: RELAY2	ON
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	ON
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

- Besides the standby power circuits, part of the Vcc circuits are also activated.
- RGB-SW/AD IC uses the power-save function of the IC.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	ON
Panel Main: CLS_CTL	OFF
DP Rx: HPD	ON
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

D

(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

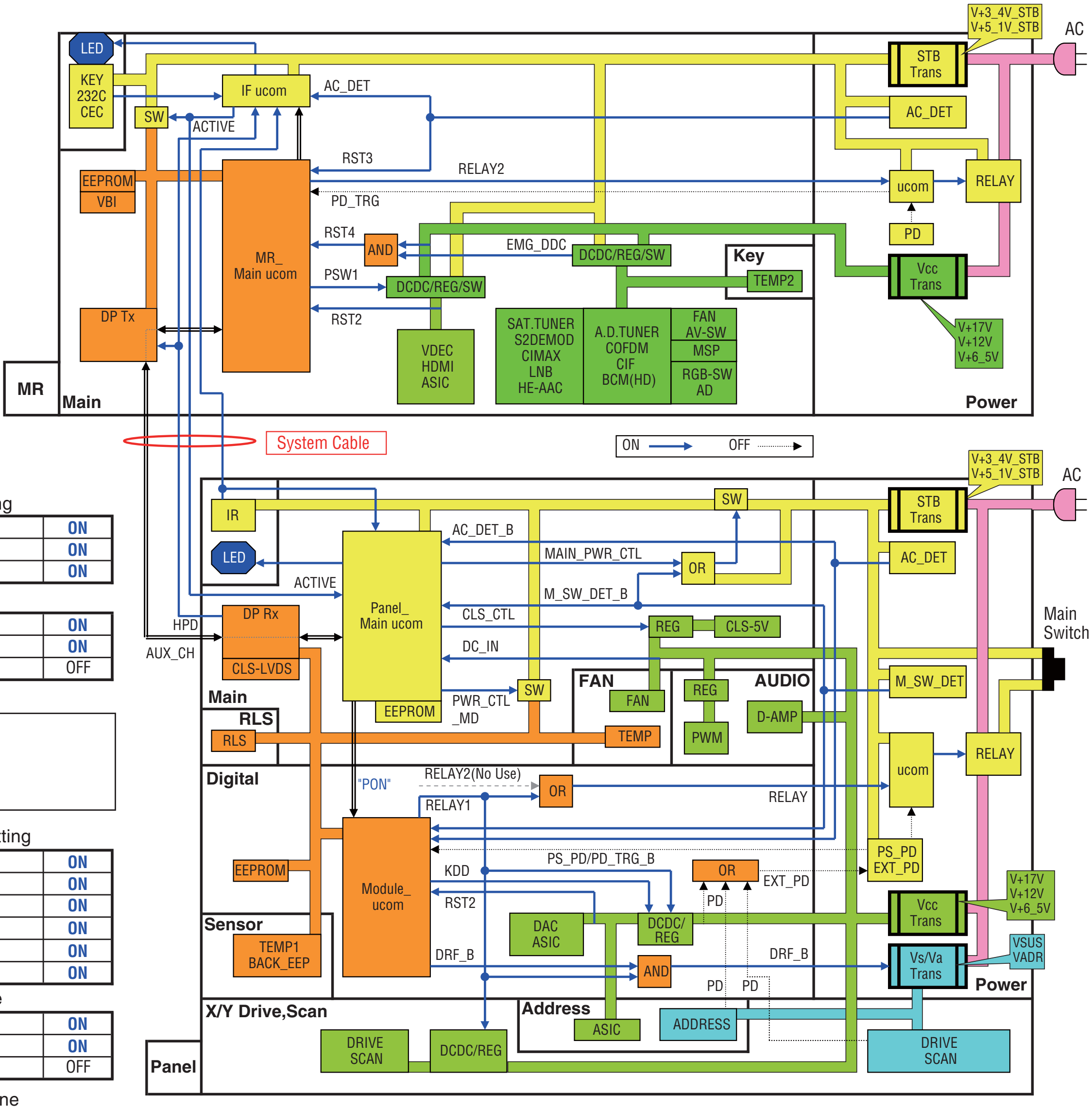
(Panel) Operation outline

Periphery of the Panel main microcomputer, IR, DP Rx and module microcomputer are operated.
(As same state as the active standby)

E

F

PDP Screen ON


LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
RST3
RELAY2
EEPROM
VBI
PD_TRG
MR_
Main ucom
RST4
AND
EMG_DDC
DCDC/REG/SW
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
SAT.TUNER
S2DEMOD
CIMAX
LNB
HE-AAC
A.D.TUNER
COFDM
CIF
BCM(HD)
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
SW
STB
Trans
IR
AC_DET_B
MAIN_PWR_CTL
OR
AC_DET
LED
ACTIVE
Panel_
Main ucom
M_SW_DET_B
Main
Switch
HPD
DP Rx
CLS_CTL
REG
CLS-5V
AUX_CH
CLS-LVDS
DC_IN
FAN
AUDIO
M_SW_DET
Main
SW
FAN
REG
D-AMP
EEPROM
PWR_CTL
_MD
RLS
RLS
TEMP
PWM
ucom
RELAY
Digital
"PON"
RELAY2(No Use)
OR
RELAY
RELAY1
EEPROM
PS_PD/PD_TRG_B
PS_PD
EXT_PD
KDD
OR
EXT_PD
Module_
ucom
PD
V+17V
V+12V
V+6_5V
RST2
DAC
ASIC
DCDC/
REG
Vcc
Trans
Sensor
TEMP1
BACK_EEP
DRF_B
DRF_B
AND
VSUS
VADR
PD
PD
Vs/Va
Trans
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	**ON**
MR Main: RELAY2	**ON**
MR Main: PSW1	**ON**

(MR) Input port state

MR Main: RST4	**ON**
MR Main: RST2	**ON**
MR Main: PD_TRG	OFF

(MR) Operation outline

All devices are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	**ON**
Panel Main: PWR_CTL_MD	**ON**
Panel Main: CLS_CTL	**ON**
DP Rx: HPD	**ON**
Module: RELAY1 / KDD	**ON**
Module: DRF_B	**ON**

(Panel) Input port state

Main: DC_IN	**ON**
Module: RST2	**ON**
Module: PS_PD/PD_TRG_B	OFF

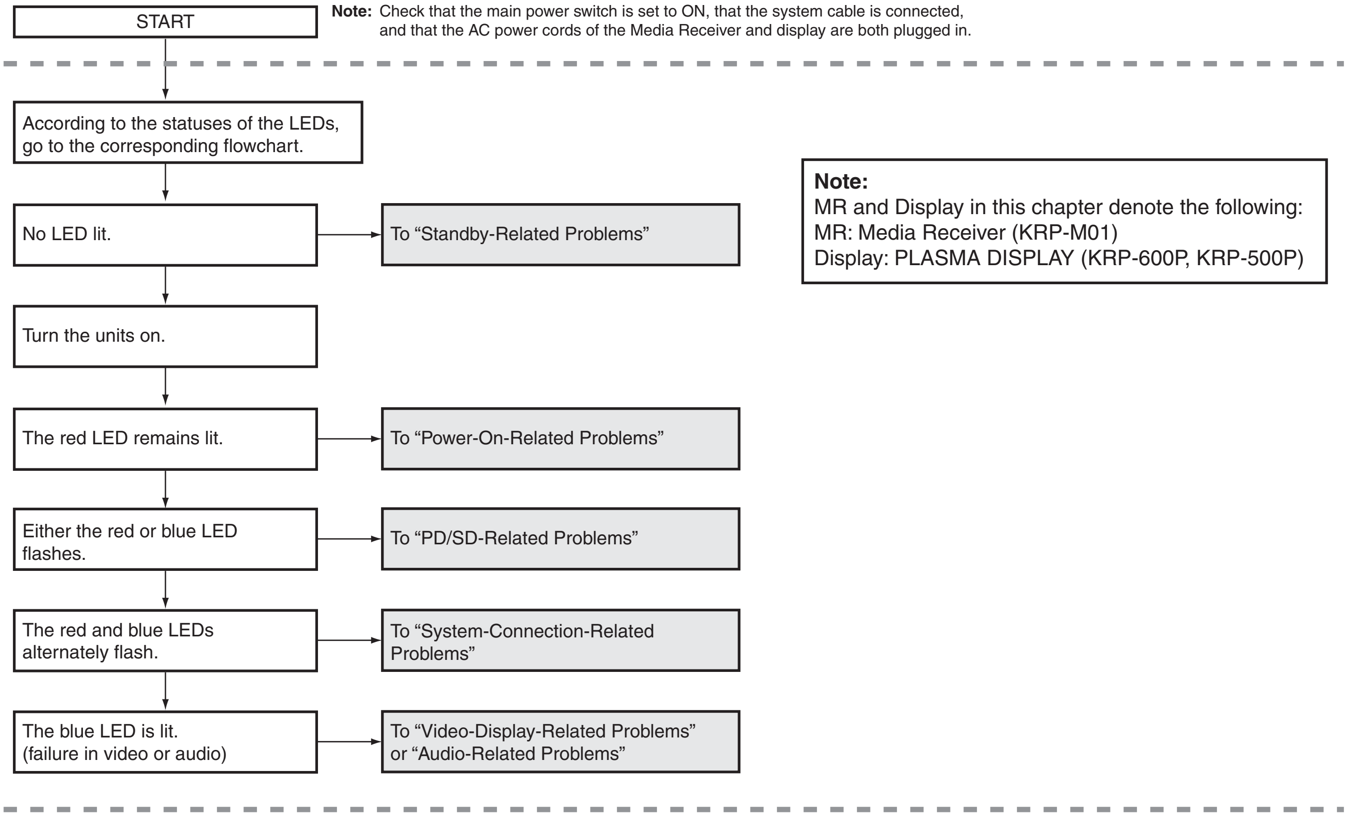
(Panel) Operation outline

All devices are operated.

5.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

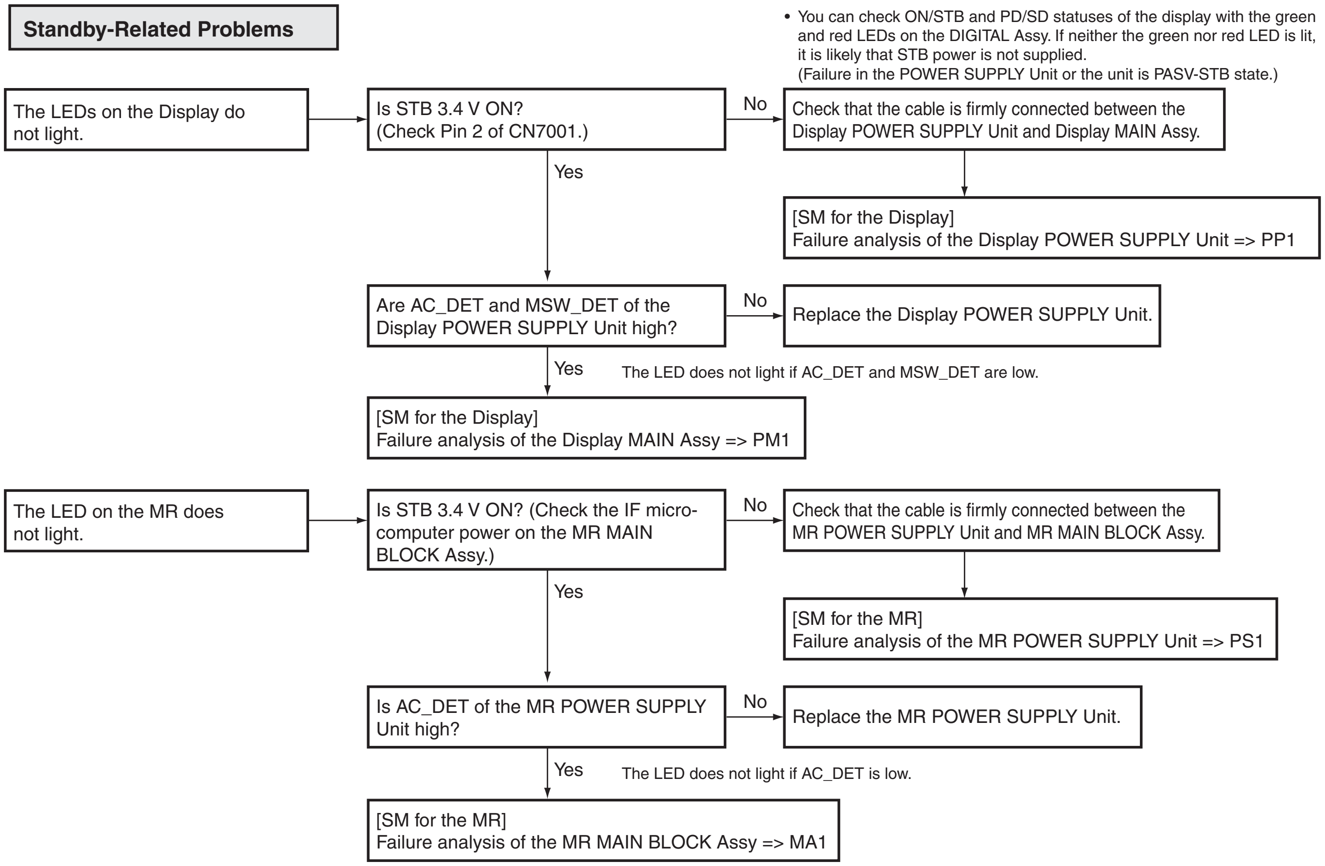
Flowchart of Failure Analysis for The Whole Unit


START
According to the statuses of the LEDs, go to the corresponding flowchart.
No LED lit.
To “Standby-Related Problems”
Turn the units on.
The red LED remains lit.
To “Power-On-Related Problems”
Either the red or blue LED flashes.
To “PD/SD-Related Problems”
The red and blue LEDs alternately flash.
To “System-Connection-Related Problems”
The blue LED is lit. (failure in video or audio)
To “Video-Display-Related Problems” or “Audio-Related Problems”

Note: Check that the main power switch is set to ON, that the system cable is connected, and that the AC power cords of the Media Receiver and display are both plugged in.

Note:
MR and Display in this chapter denote the following:
MR: Media Receiver (KRP-M01)
Display: PLASMA DISPLAY (KRP-600P, KRP-500P)

Standby-Related Problems

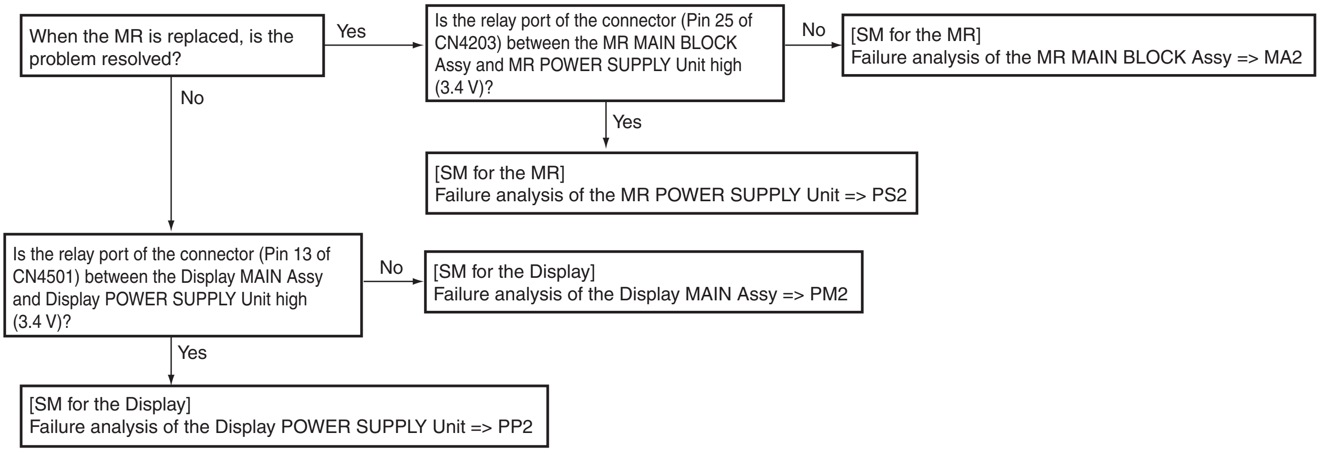

Standby-Related Problems
The LEDs on the Display do not light.
Is STB 3.4 V ON? (Check Pin 2 of CN7001.)
No
Check that the cable is firmly connected between the Display POWER SUPPLY Unit and Display MAIN Assy.
[SM for the Display] Failure analysis of the Display POWER SUPPLY Unit => PP1
Yes
Are AC_DET and MSW_DET of the Display POWER SUPPLY Unit high?
No
Replace the Display POWER SUPPLY Unit.
Yes
[SM for the Display] Failure analysis of the Display MAIN Assy => PM1
The LED on the MR does not light.
Is STB 3.4 V ON? (Check the IF micro-computer power on the MR MAIN BLOCK Assy.)
No
Check that the cable is firmly connected between the MR POWER SUPPLY Unit and MR MAIN BLOCK Assy.
[SM for the MR] Failure analysis of the MR POWER SUPPLY Unit => PS1
Yes
Is AC_DET of the MR POWER SUPPLY Unit high?
No
Replace the MR POWER SUPPLY Unit.
Yes
[SM for the MR] Failure analysis of the MR MAIN BLOCK Assy => MA1

- You can check ON/STB and PD/SD statuses of the display with the green and red LEDs on the DIGITAL Assy. If neither the green nor red LED is lit, it is likely that STB power is not supplied. (Failure in the POWER SUPPLY Unit or the unit is PASV-STB state.)

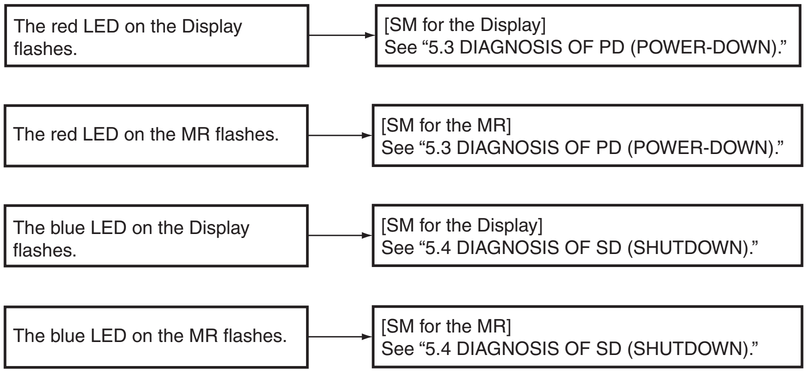
The LED does not light if AC_DET and MSW_DET are low.

The LED does not light if AC_DET is low.

Power-On-Related Problems


When the MR is replaced, is the problem resolved?
Yes
Is the relay port of the connector (Pin 25 of CN4203) between the MR MAIN BLOCK Assy and MR POWER SUPPLY Unit high (3.4 V)?
No
[SM for the MR]
Failure analysis of the MR MAIN BLOCK Assy => MA2
Yes
[SM for the MR]
Failure analysis of the MR POWER SUPPLY Unit => PS2
No
Is the relay port of the connector (Pin 13 of CN4501) between the Display MAIN Assy and Display POWER SUPPLY Unit high (3.4 V)?
No
[SM for the Display]
Failure analysis of the Display MAIN Assy => PM2
Yes
[SM for the Display]
Failure analysis of the Display POWER SUPPLY Unit => PP2

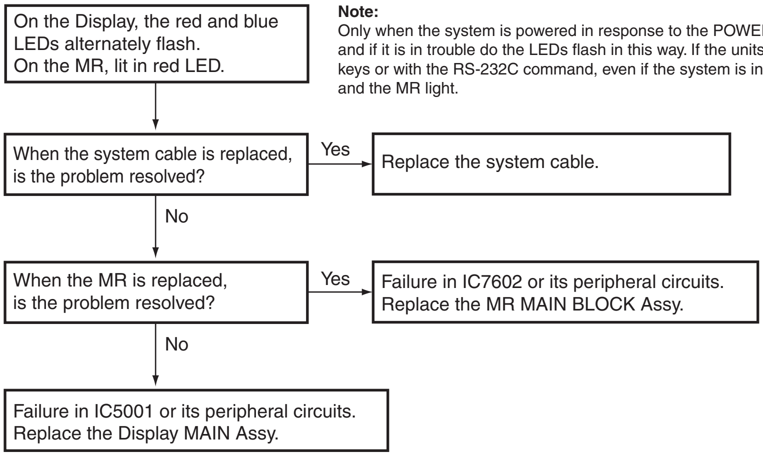
PD/SD-Related Problems


The red LED on the Display flashes.
[SM for the Display]
See “5.3 DIAGNOSIS OF PD (POWER-DOWN).”
The red LED on the MR flashes.
[SM for the MR]
See “5.3 DIAGNOSIS OF PD (POWER-DOWN).”
The blue LED on the Display flashes.
[SM for the Display]
See “5.4 DIAGNOSIS OF SD (SHUTDOWN).”
The blue LED on the MR flashes.
[SM for the MR]
See “5.4 DIAGNOSIS OF SD (SHUTDOWN).”

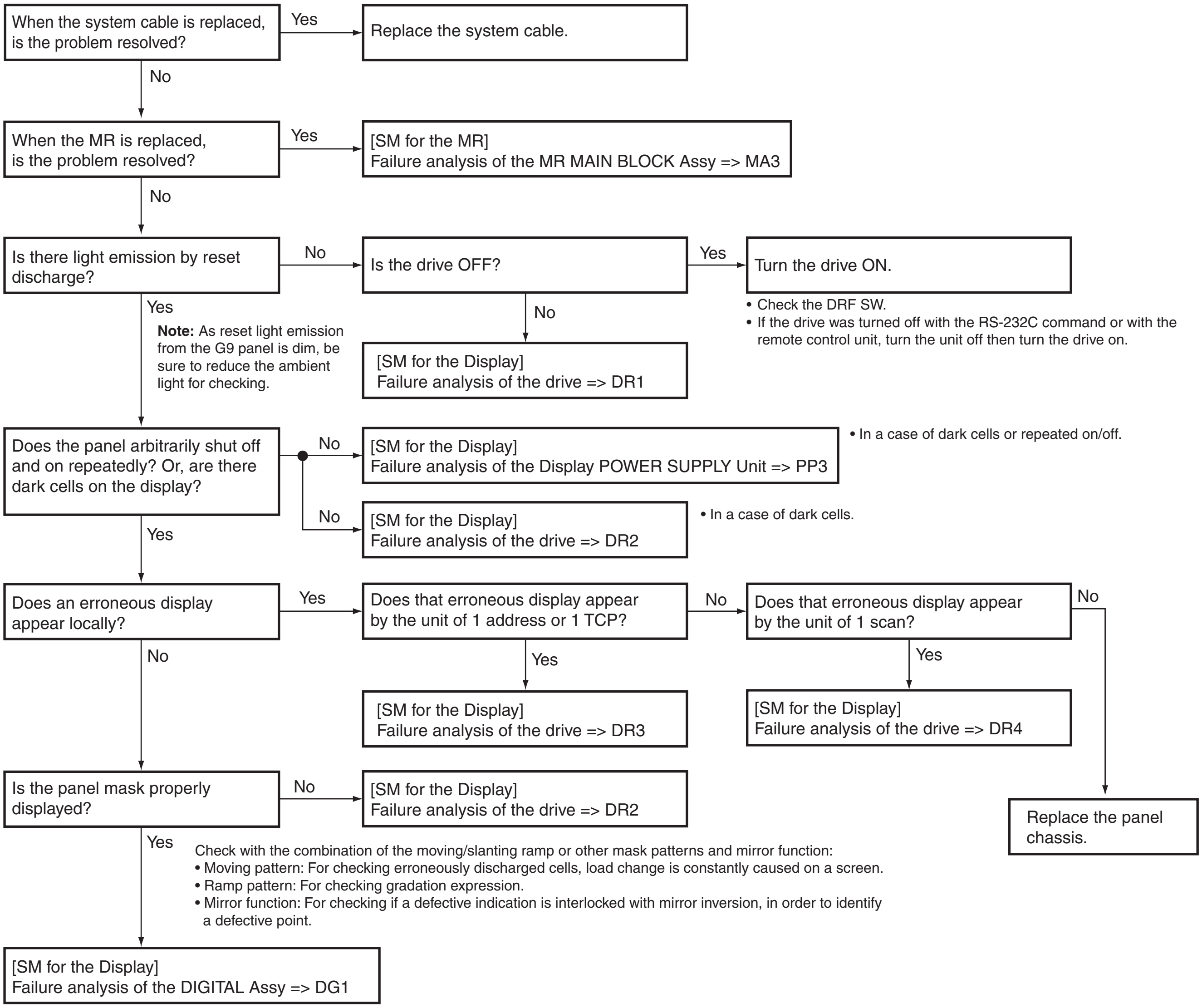
Power-down will not be activated if the drive is off.

System-Connection-Related Problems

Note:
Only when the system is powered in response to the POWER key on the remote control unit and if it is in trouble do the LEDs flash in this way. If the units are turned on with their POWER keys or with the RS-232C command, even if the system is in failure, the red LEDs on the display and the MR light.


On the Display, the red and blue LEDs alternately flash.
On the MR, lit in red LED.
When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
Failure in IC7602 or its peripheral circuits.
Replace the MR MAIN BLOCK Assy.
No
Failure in IC5001 or its peripheral circuits.
Replace the Display MAIN Assy.

Video-Display-Related Problems


When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
[SM for the MR]
Failure analysis of the MR MAIN BLOCK Assy => MA3
No
Is there light emission by reset discharge?
No
Is the drive OFF?
Yes
Turn the drive ON.
No
[SM for the Display]
Failure analysis of the drive => DR1
Yes
Does the panel arbitrarily shut off and on repeatedly? Or, are there dark cells on the display?
No
[SM for the Display]
Failure analysis of the Display POWER SUPPLY Unit => PP3
No
[SM for the Display]
Failure analysis of the drive => DR2
Yes
Does an erroneous display appear locally?
Yes
Does that erroneous display appear by the unit of 1 address or 1 TCP?
No
Does that erroneous display appear by the unit of 1 scan?
No
Yes
[SM for the Display]
Failure analysis of the drive => DR3
Yes
[SM for the Display]
Failure analysis of the drive => DR4
No
Is the panel mask properly displayed?
No
[SM for the Display]
Failure analysis of the drive => DR2
Replace the panel chassis.
Yes
[SM for the Display]
Failure analysis of the DIGITAL Assy => DG1

Note: As reset light emission from the G9 panel is dim, be sure to reduce the ambient light for checking.

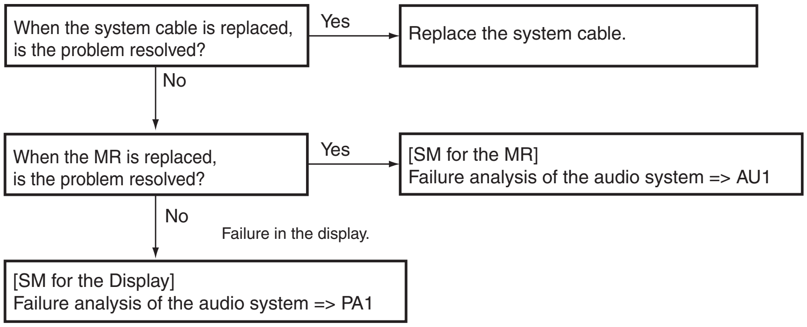
- Check the DRF SW.
- If the drive was turned off with the RS-232C command or with the remote control unit, turn the unit off then turn the drive on.

- In a case of dark cells or repeated on/off.

- In a case of dark cells.

Check with the combination of the moving/slanting ramp or other mask patterns and mirror function:
- Moving pattern: For checking erroneously discharged cells, load change is constantly caused on a screen.
- Ramp pattern: For checking gradation expression.
- Mirror function: For checking if a defective indication is interlocked with mirror inversion, in order to identify a defective point.

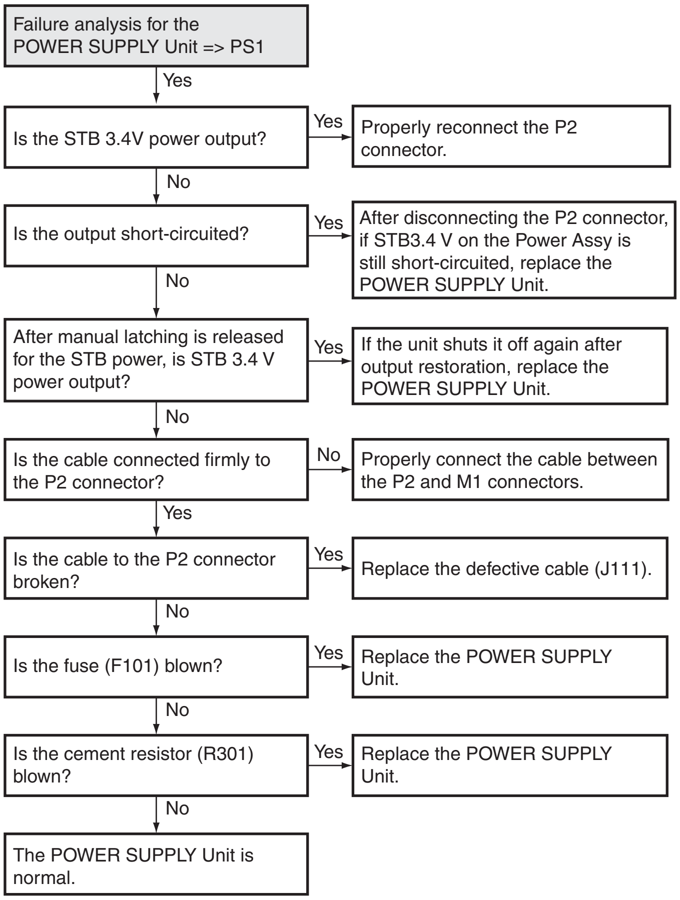
Audio-Related Problems


When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
[SM for the MR]
Failure analysis of the audio system => AU1
No
[SM for the Display]
Failure analysis of the audio system => PA1

Failure in the display.

[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit => PS1
Yes
Is the STB 3.4V power output?
Yes
Properly reconnect the P2 connector.
No
Is the output short-circuited?
Yes
After disconnecting the P2 connector, if STB3.4 V on the Power Assy is still short-circuited, replace the POWER SUPPLY Unit.
No
After manual latching is released for the STB power, is STB 3.4 V power output?
Yes
If the unit shuts it off again after output restoration, replace the POWER SUPPLY Unit.
No
Is the cable connected firmly to the P2 connector?
No
Properly connect the cable between the P2 and M1 connectors.
Yes
Is the cable to the P2 connector broken?
Yes
Replace the defective cable (J111).
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is the cement resistor (R301) blown?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

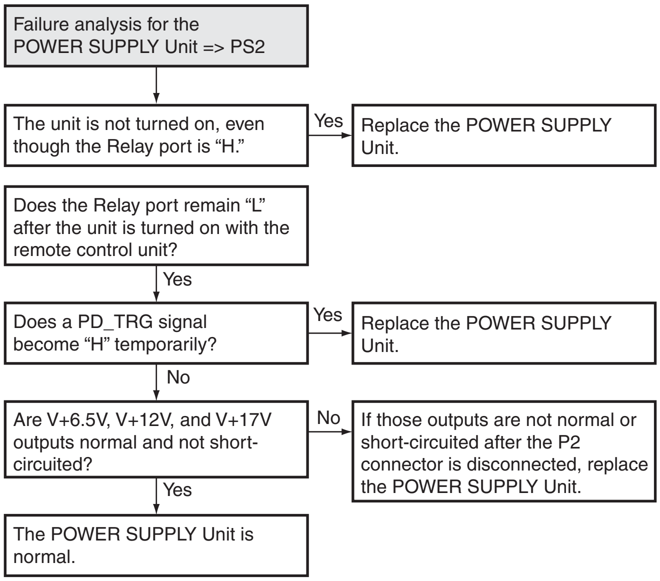
- A cause of failure may be that STB3.4 V voltage is below 3 V (does not reach the specified value).
- If STB3.4 V voltage is not output, other four voltages (STB5.1 V, V+6.5 V, V+12 V, and V+17 V) are not output.

- If Standby power is latched up for an extended period, the protection against over voltage or over heat for STB3.4 V has been activated.

- Check the voltage at the MAIN BLOCK Assy and POWER SUPPLY Unit.

- In this case, failure in the RC101 rectifier diode is suspected.

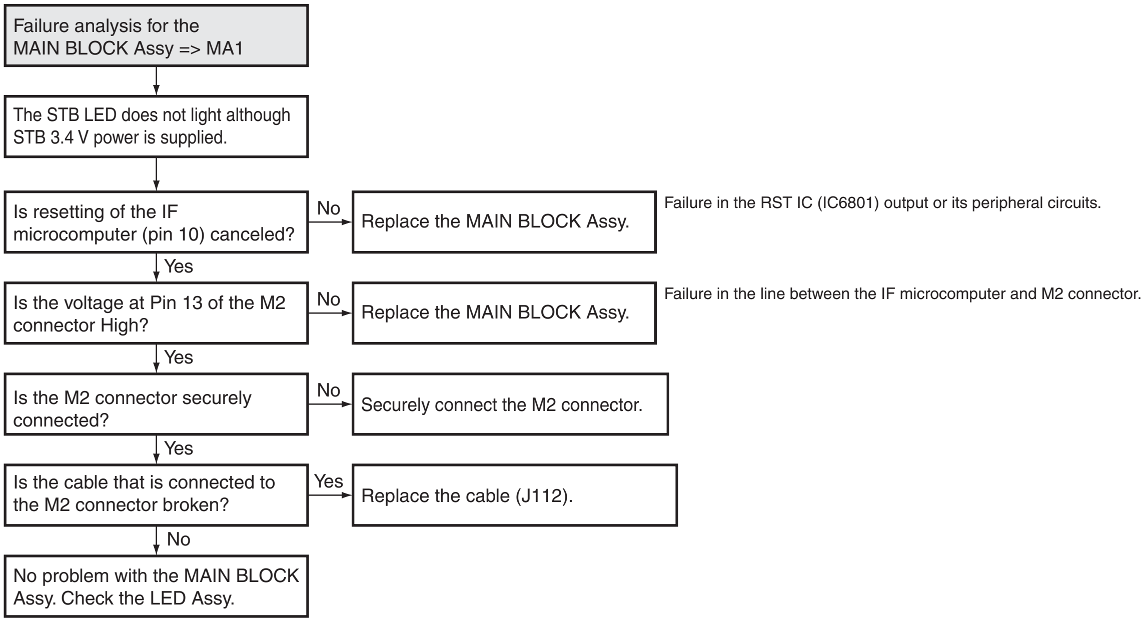
- Check the resistance between the two electrodes of the cement resistor, using a tester.
  If the resistor is damaged, a failure in Z121 (STB power IC) or Q301 (Vcc power switching FET) by short-circuiting is suspected.

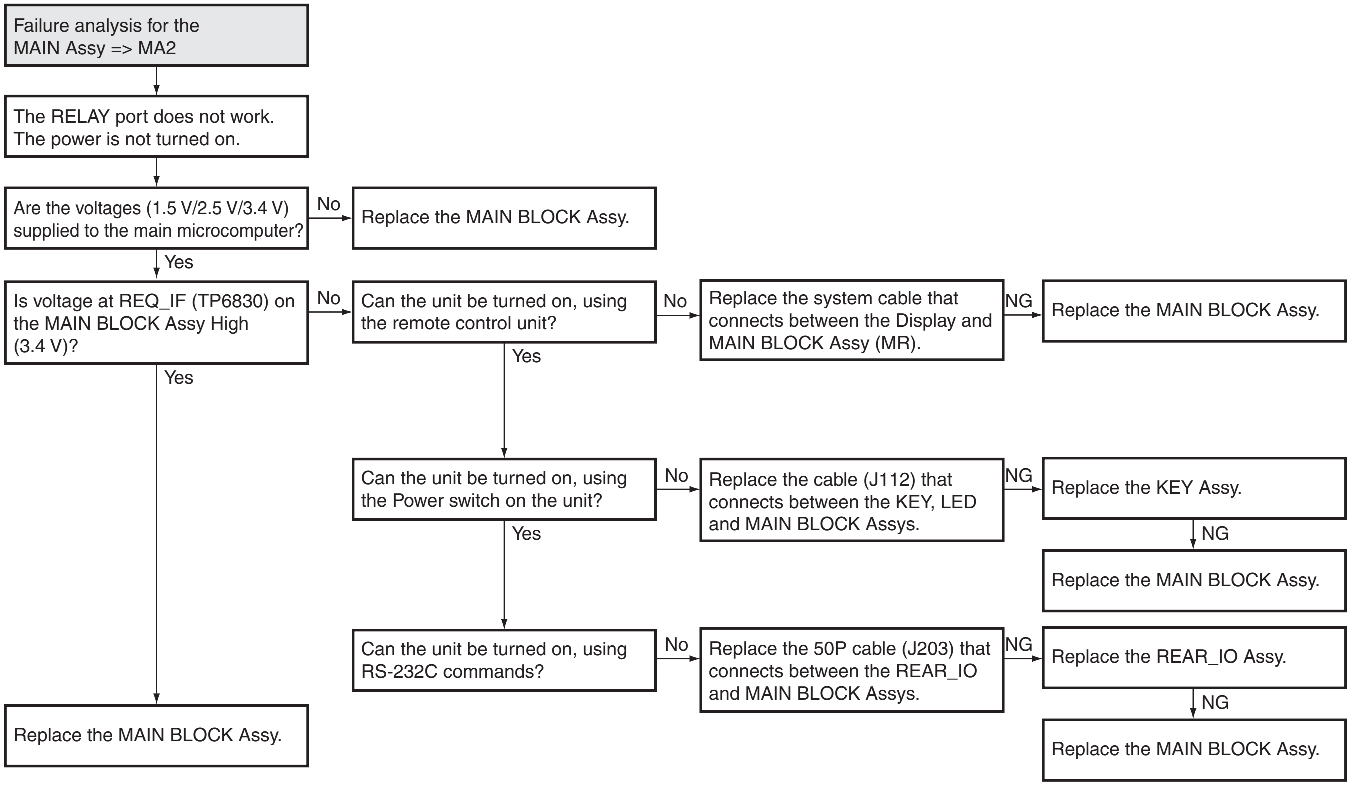

Failure analysis for the POWER SUPPLY Unit => PS2
The unit is not turned on, even though the Relay port is "H."
Yes
Replace the POWER SUPPLY Unit.
Does the Relay port remain "L" after the unit is turned on with the remote control unit?
Yes
Does a PD_TRG signal become "H" temporarily?
Yes
Replace the POWER SUPPLY Unit.
No
Are V+6.5V, V+12V, and V+17V outputs normal and not short-circuited?
No
If those outputs are not normal or short-circuited after the P2 connector is disconnected, replace the POWER SUPPLY Unit.
Yes
The POWER SUPPLY Unit is normal.

- Check the voltage at pin of the Relay (Pin 2 of P2). (Voltage: 3 to 3.4 V)
- If the protection circuit against either Under Voltage Protection (UVP), Over Current Protection (OCP), Over Voltage Protection (OVP), or Thermal Shut Down (TSD) for Vcc power is activated, the PD_TRG signal becomes "H."
  => See "5.3 DIAGNOSIS OF PD (POWER-DOWN)."
- The PD_TRG signal is "H" only while the Relay signal is "H."
  The PD_TRG signal becomes "H" only temporarily, because as soon as the main board detects that the PD_TRG signal has become "H," it issues a command to set the Relay signal to "L."

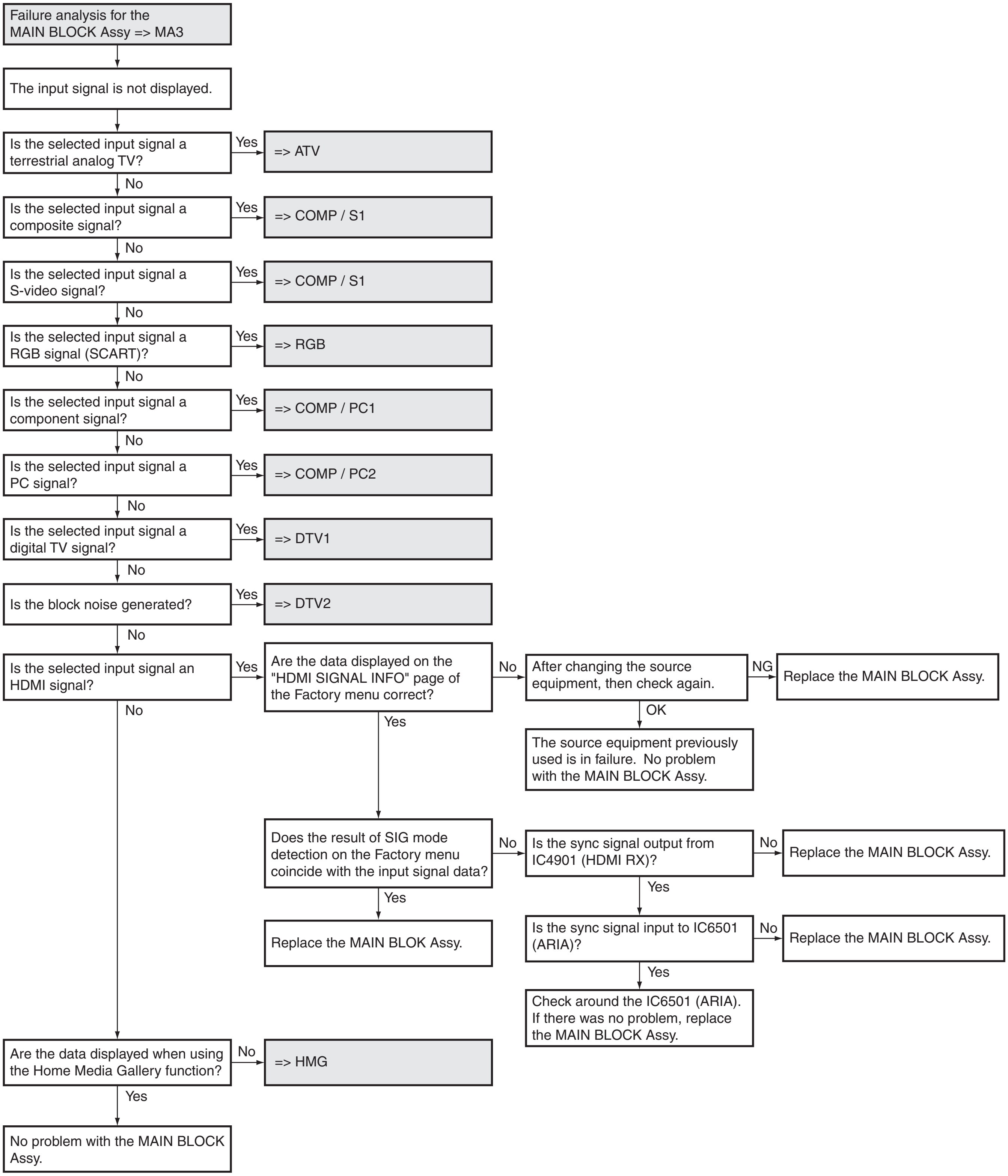
[3] MAIN BLOCK ASSY

Flowchart of Failure Analysis for The MAIN BLOCK Assy


Failure analysis for the MAIN BLOCK Assy => MA1
The STB LED does not light although STB 3.4 V power is supplied.
Is resetting of the IF microcomputer (pin 10) canceled?
No
Replace the MAIN BLOCK Assy.
Failure in the RST IC (IC6801) output or its peripheral circuits.
Yes
Is the voltage at Pin 13 of the M2 connector High?
No
Replace the MAIN BLOCK Assy.
Failure in the line between the IF microcomputer and M2 connector.
Yes
Is the M2 connector securely connected?
No
Securely connect the M2 connector.
Yes
Is the cable that is connected to the M2 connector broken?
Yes
Replace the cable (J112).
No
No problem with the MAIN BLOCK Assy. Check the LED Assy.

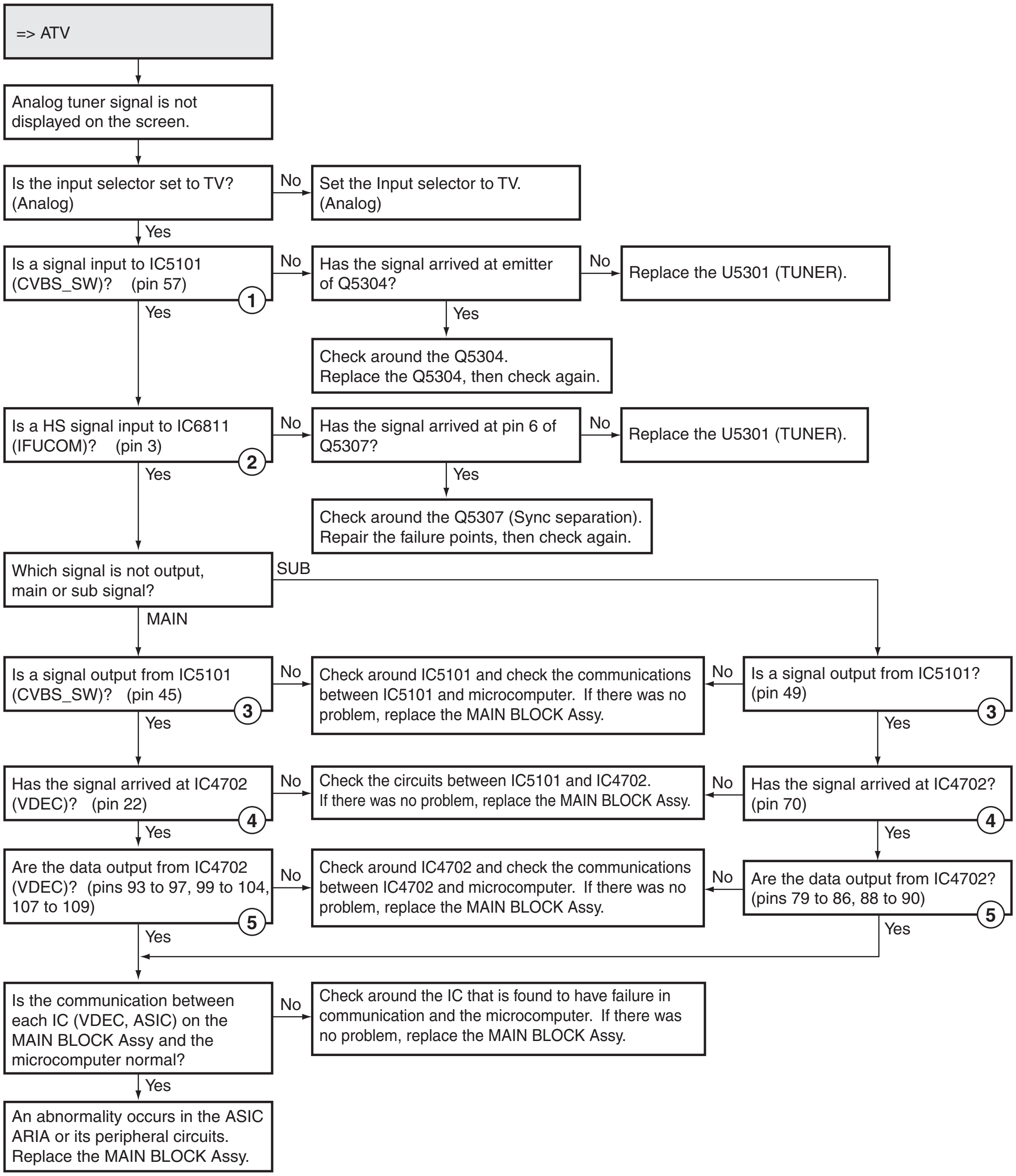

Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Are the voltages (1.5 V/2.5 V/3.4 V) supplied to the main microcomputer?
No
Replace the MAIN BLOCK Assy.
Yes
Is voltage at REQ_IF (TP6830) on the MAIN BLOCK Assy High (3.4 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the system cable that connects between the Display and MAIN BLOCK Assy (MR).
NG
Replace the MAIN BLOCK Assy.
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable (J112) that connects between the KEY, LED and MAIN BLOCK Assys.
NG
Replace the KEY Assy.
NG
Replace the MAIN BLOCK Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 50P cable (J203) that connects between the REAR_IO and MAIN BLOCK Assys.
NG
Replace the REAR_IO Assy.
NG
Replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOCK Assy.

Flowchart of Failure Analysis for The MAIN BLOCK Assy


Failure analysis for the MAIN BLOCK Assy => MA3
The input signal is not displayed.
Is the selected input signal a terrestrial analog TV?
Yes
=> ATV
No
Is the selected input signal a composite signal?
Yes
=> COMP / S1
No
Is the selected input signal a S-video signal?
Yes
=> COMP / S1
No
Is the selected input signal a RGB signal (SCART)?
Yes
=> RGB
No
Is the selected input signal a component signal?
Yes
=> COMP / PC1
No
Is the selected input signal a PC signal?
Yes
=> COMP / PC2
No
Is the selected input signal a digital TV signal?
Yes
=> DTV1
No
Is the block noise generated?
Yes
=> DTV2
No
Is the selected input signal an HDMI signal?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, then check again.
NG
Replace the MAIN BLOCK Assy.
OK
The source equipment previously used is in failure. No problem with the MAIN BLOCK Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC4901 (HDMI RX)?
No
Replace the MAIN BLOCK Assy.
Yes
Is the sync signal input to IC6501 (ARIA)?
No
Replace the MAIN BLOCK Assy.
Yes
Check around the IC6501 (ARIA). If there was no problem, replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOK Assy.
No
Are the data displayed when using the Home Media Gallery function?
No
=> HMG
Yes
No problem with the MAIN BLOCK Assy.

[4] VIDEO SYSTEM

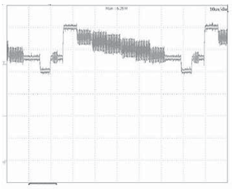
Flowchart of Failure Analysis for The Video System


=> ATV
Analog tuner signal is not displayed on the screen.
Is the input selector set to TV? (Analog)
No
Set the Input selector to TV. (Analog)
Yes
Is a signal input to IC5101 (CVBS_SW)? (pin 57) ①
No
Has the signal arrived at emitter of Q5304?
No
Replace the U5301 (TUNER).
Yes
Check around the Q5304. Replace the Q5304, then check again.
Yes
Is a HS signal input to IC6811 (IFUCOM)? (pin 3) ②
No
Has the signal arrived at pin 6 of Q5307?
No
Replace the U5301 (TUNER).
Yes
Check around the Q5307 (Sync separation). Repair the failure points, then check again.
Yes
Which signal is not output, main or sub signal?
SUB
MAIN
Is a signal output from IC5101 (CVBS_SW)? (pin 45) ③
No
Check around IC5101 and check the communications between IC5101 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
No
Is a signal output from IC5101? (pin 49) ③
Yes
Yes
Has the signal arrived at IC4702 (VDEC)? (pin 22) ④
No
Check the circuits between IC5101 and IC4702. If there was no problem, replace the MAIN BLOCK Assy.
No
Has the signal arrived at IC4702? (pin 70) ④
Yes
Yes
Are the data output from IC4702 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109) ⑤
No
Check around IC4702 and check the communications between IC4702 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
No
Are the data output from IC4702? (pins 79 to 86, 88 to 90) ⑤
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
An abnormality occurs in the ASIC ARIA or its peripheral circuits. Replace the MAIN BLOCK Assy.

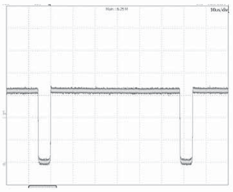
• Waveforms

Input signal: PAL Color-bar (Analog tuner)

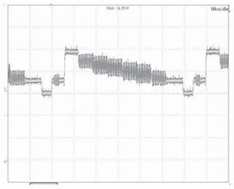
① **IC5101 - pin 57 (in)**
V: 500 mV/div H: 10 µsec/div



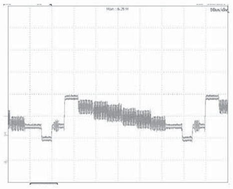
② **IC6811 - pin 3**
V: 1 V/div H: 10 µsec/div



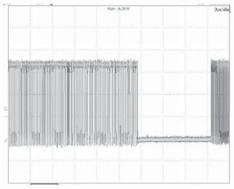
③ **IC5101 - pins 45, 49 (out)**
V: 500 mV/div H: 10 µsec/div

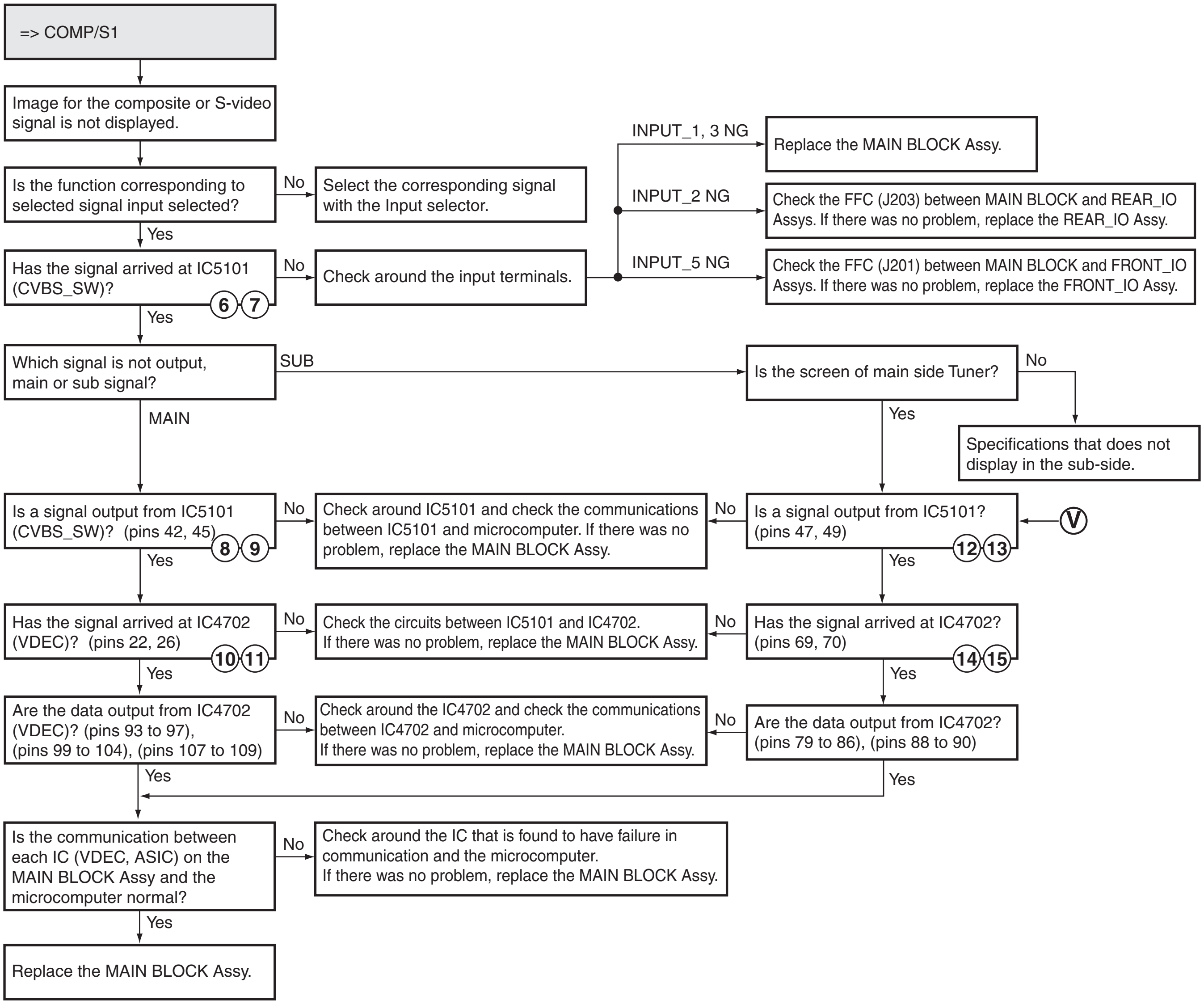


④ **IC4702 - pins 22, 70**
V: 500 mV/div H: 10 µsec/div



⑤ **IC4702 - pins 93, 79 (656 out)**
V: 1 V/div H: 2 µsec/div

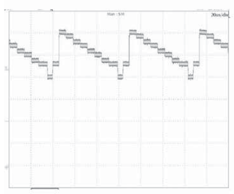



=> COMP/S1
Image for the composite or S-video signal is not displayed.
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the Input selector.
Yes
Has the signal arrived at IC5101 (CVBS_SW)?
⑥ ⑦
No
Check around the input terminals.
INPUT_1, 3 NG
Replace the MAIN BLOCK Assy.
INPUT_2 NG
Check the FFC (J203) between MAIN BLOCK and REAR_IO Assys. If there was no problem, replace the REAR_IO Assy.
INPUT_5 NG
Check the FFC (J201) between MAIN BLOCK and FRONT_IO Assys. If there was no problem, replace the FRONT_IO Assy.
Yes
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Tuner?
No
Specifications that does not display in the sub-side.
Yes
MAIN
Is a signal output from IC5101 (CVBS_SW)? (pins 42, 45)
⑧ ⑨
No
Check around IC5101 and check the communications between IC5101 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
No
Is a signal output from IC5101? (pins 47, 49)
⑫ ⑬
Ⓥ
Yes
Has the signal arrived at IC4702 (VDEC)? (pins 22, 26)
⑩ ⑪
No
Check the circuits between IC5101 and IC4702. If there was no problem, replace the MAIN BLOCK Assy.
No
Has the signal arrived at IC4702? (pins 69, 70)
⑭ ⑮
Yes
Are the data output from IC4702 (VDEC)? (pins 93 to 97), (pins 99 to 104), (pins 107 to 109)
No
Check around the IC4702 and check the communications between IC4702 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
No
Are the data output from IC4702? (pins 79 to 86), (pins 88 to 90)
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOCK Assy.

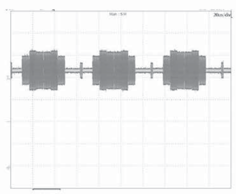
• Waveforms

Input signal: PAL Color-bar (S termial)

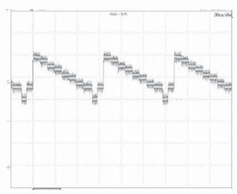
⑥ IC5101 - pins 87, 93 (Y)
V: 500 mV/div H: 20 μsec/div



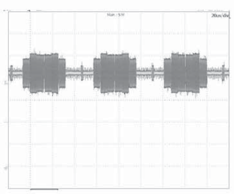
⑦ IC5101 - pins 89, 95 (C)
V: 500 mV/div H: 20 μsec/div



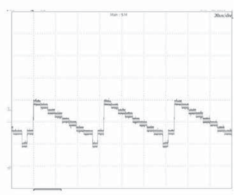
⑧ IC5101 - pin 45 (Main Y)
V: 500 mV/div H: 20 μsec/div



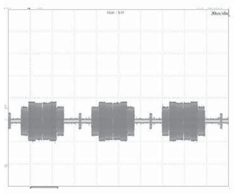
⑨ IC5101 - pin 42 (Main C)
V: 500 mV/div H: 20 μsec/div



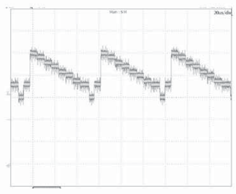
⑩ IC4702 - pin 22 (Main Y)
V: 500 mV/div H: 20 μsec/div



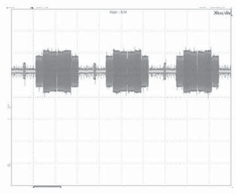
⑪ IC4702 - pin 26 (Main C)
V: 500 mV/div H: 20 μsec/div



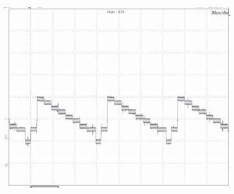
⑫ IC5101 - pin 49 (Sub Y)
V: 500 mV/div H: 20 μsec/div



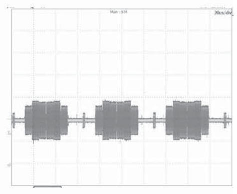
⑬ IC5101 - pin 47 (Sub C)
V: 500 mV/div H: 20 μsec/div

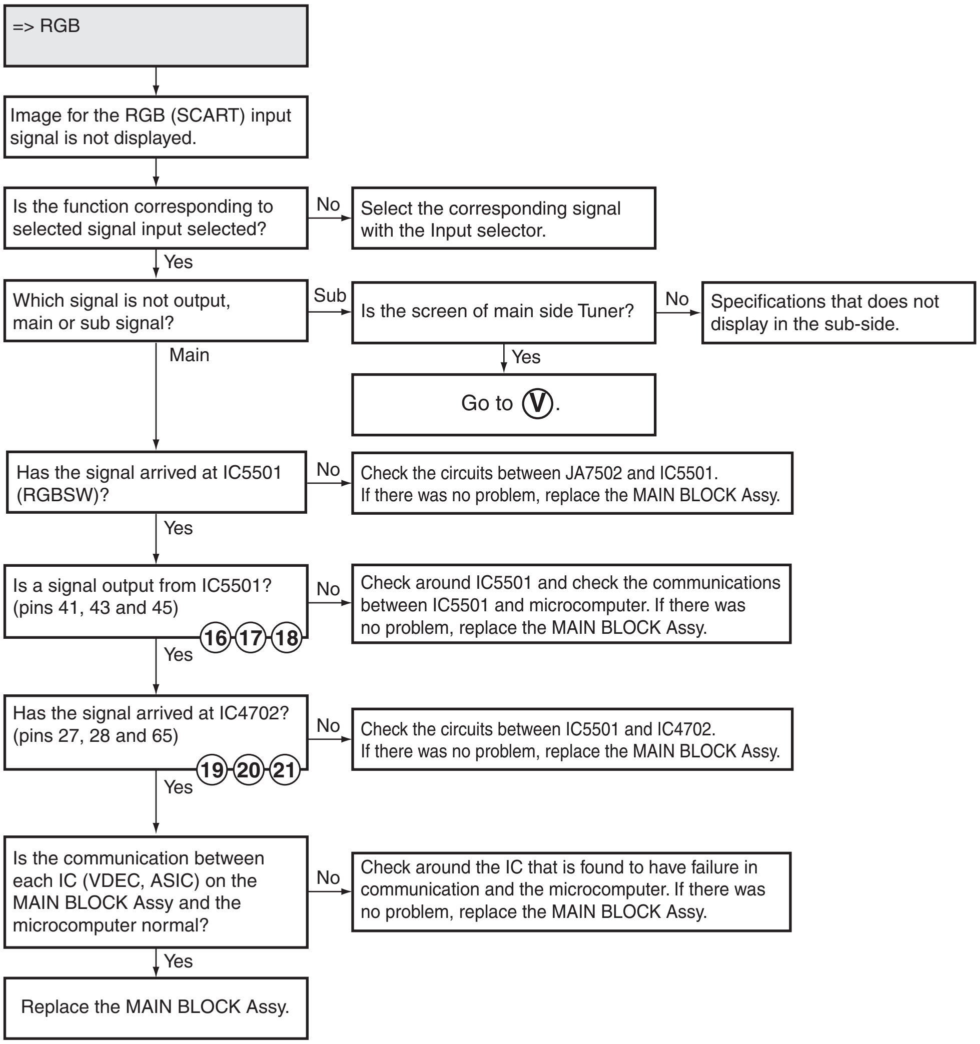


⑭ IC4702 - pin 70 (Sub Y)
V: 500 mV/div H: 20 μsec/div



⑮ IC4702 - pin 69 (Sub C)
V: 500 mV/div H: 20 μsec/div





=> RGB

Image for the RGB (SCART) input signal is not displayed.

Is the function corresponding to selected signal input selected?

Select the corresponding signal with the Input selector.

Which signal is not output, main or sub signal?

Is the screen of main side Tuner?

Specifications that does not display in the sub-side.

Go to Ⓥ.

Has the signal arrived at IC5501 (RGBSW)?

Check the circuits between JA7502 and IC5501.
If there was no problem, replace the MAIN BLOCK Assy.

Is a signal output from IC5501? (pins 41, 43 and 45)

Check around IC5501 and check the communications between IC5501 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

Has the signal arrived at IC4702? (pins 27, 28 and 65)

Check the circuits between IC5501 and IC4702.
If there was no problem, replace the MAIN BLOCK Assy.

Is the communication between each IC (VDEC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?

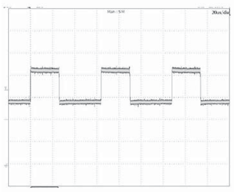
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

Replace the MAIN BLOCK Assy.

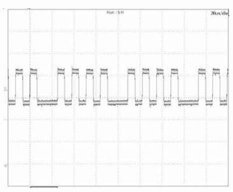
• Waveforms

Input signal: PAL Color-bar (SCART RGB terminal)

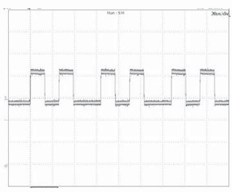
⑯ **IC5501 - pin 45 (G out)**
V: 500 mV/div H: 20 µS/div



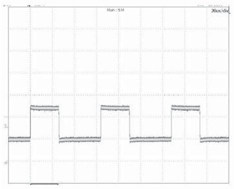
⑰ **IC5501 - pin 43 (B out)**
V: 500 mV/div H: 20 µS/div



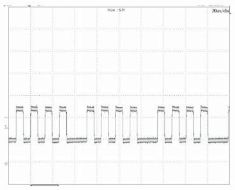
⑱ **IC5501 - pin 41 (R out)**
V: 500 mV/div H: 20 µS/div



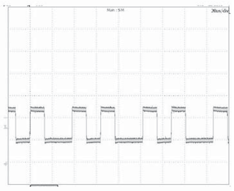
⑲ **IC4702 - pin 65 (GY)**
V: 500 mV/div H: 20 µS/div

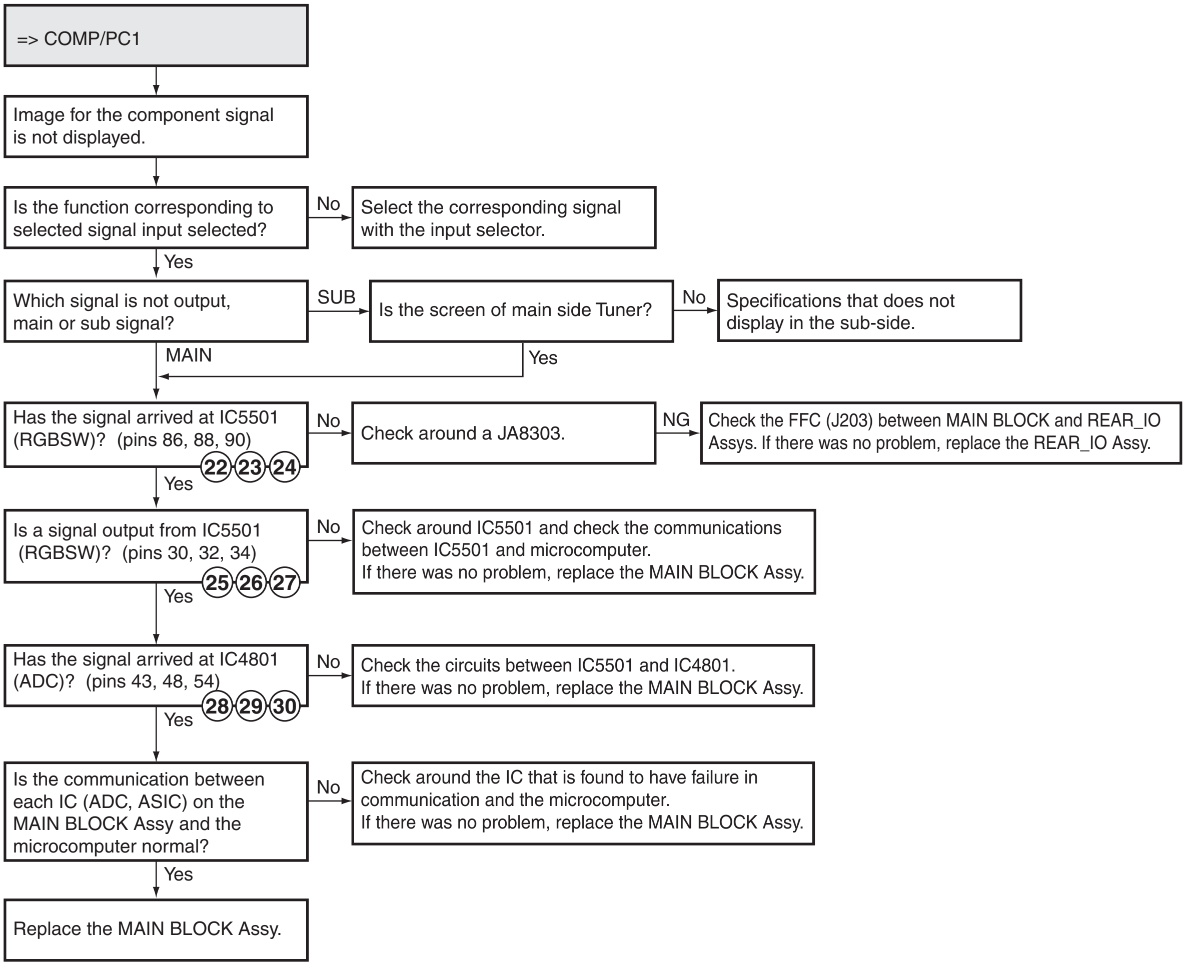


⑳ **IC4702 - pin 27 (BCB)**
V: 500 mV/div H: 20 µS/div



㉑ **IC4702 - pin 28 (BCR)**
V: 500 mV/div H: 20 µS/div

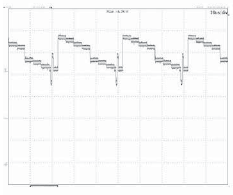



=> COMP/PC1
Image for the component signal is not displayed.
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Tuner?
No
Specifications that does not display in the sub-side.
MAIN
Yes
Has the signal arrived at IC5501 (RGBSW)? (pins 86, 88, 90) ㉒㉓㉔
No
Check around a JA8303.
NG
Check the FFC (J203) between MAIN BLOCK and REAR_IO Assys. If there was no problem, replace the REAR_IO Assy.
Yes
Is a signal output from IC5501 (RGBSW)? (pins 30, 32, 34) ㉕㉖㉗
No
Check around IC5501 and check the communications between IC5501 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Has the signal arrived at IC4801 (ADC)? (pins 43, 48, 54) ㉘㉙㉚
No
Check the circuits between IC5501 and IC4801. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOCK Assy.

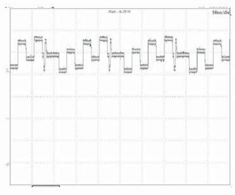
• Waveforms

Input signal: Color-bar (Component 720p/50 Hz)

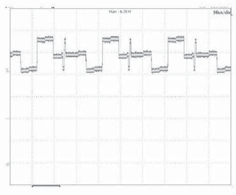
㉒ **IC5501 - pin 86 (Y)**
V: 500 mV/div H: 10 µsec/div



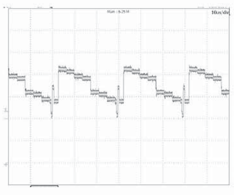
㉓ **IC5501 - pin 88 (Pb)**
V: 500 mV/div H: 10 µsec/div



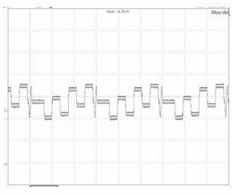
㉔ **IC5501 - pin 90 (Pr)**
V: 500 mV/div H: 10 µsec/div



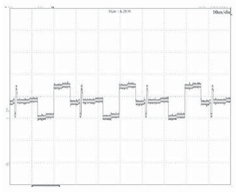
㉕ **IC5501 - pin 34 (Y)**
V: 500 mV/div H: 10 µsec/div



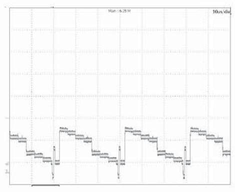
㉖ **IC5501 - pin 32 (Pb)**
V: 500 mV/div H: 10 µsec/div



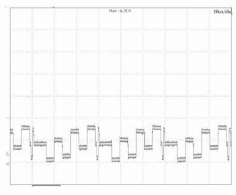
㉗ **IC5501 - pin 30 (Pr)**
V: 500 mV/div H: 10 µsec/div



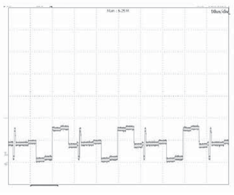
㉘ **IC4801 - pin 48 (Y)**
V: 500 mV/div H: 10 µsec/div

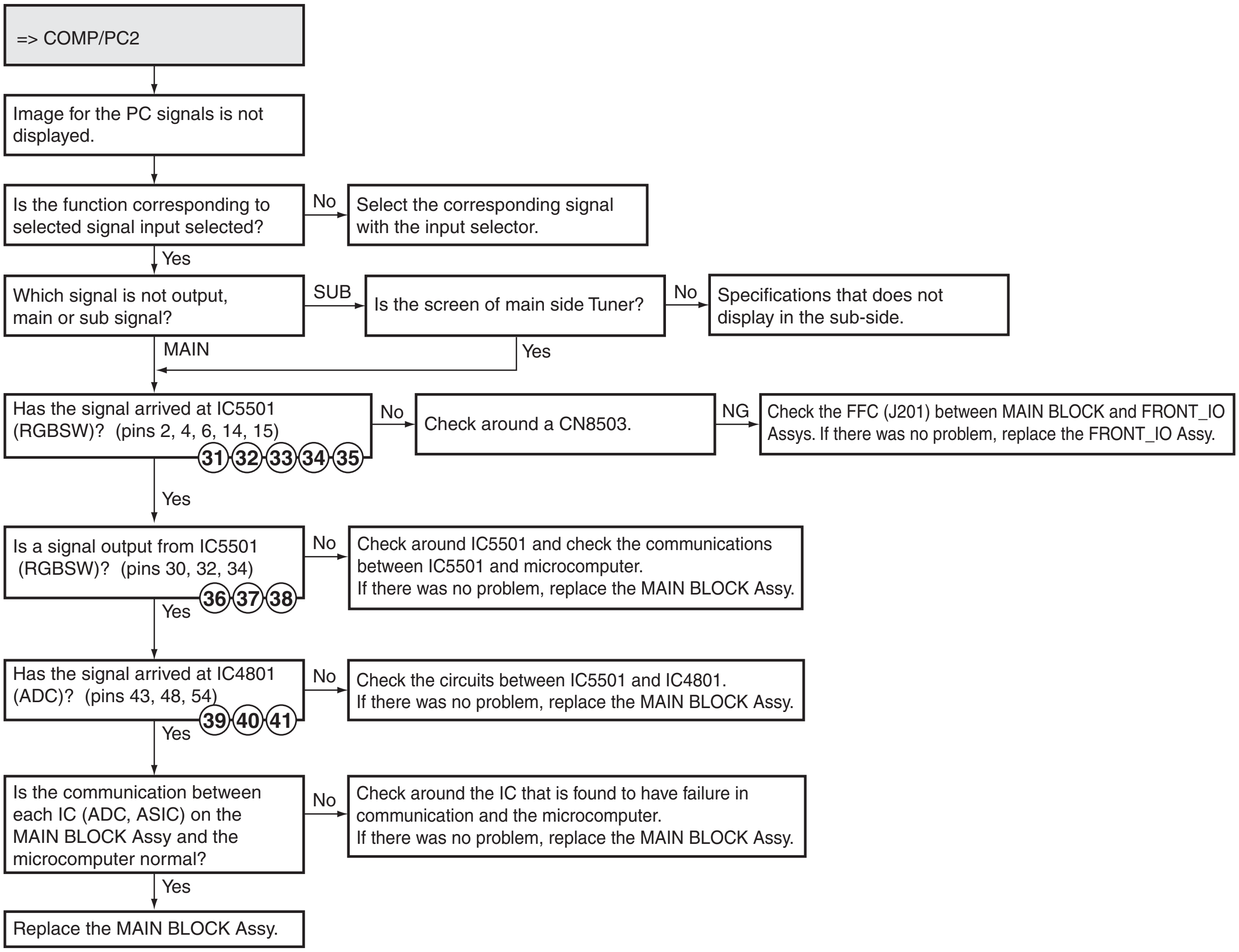


㉙ **IC4801 - pin 43 (Pb)**
V: 500 mV/div H: 10 µsec/div



㉚ **IC4801 - pin 54 (Pr)**
V: 500 mV/div H: 10 µsec/div





=> COMP/PC2

Image for the PC signals is not displayed.

Is the function corresponding to selected signal input selected?
- No: Select the corresponding signal with the input selector.
- Yes: ↓

Which signal is not output, main or sub signal?
- SUB: Is the screen of main side Tuner?
  - No: Specifications that does not display in the sub-side.
  - Yes: ↓
- MAIN: ↓

Has the signal arrived at IC5501 (RGBSW)? (pins 2, 4, 6, 14, 15) ㉛㉜㉝㉞㉟
- No: Check around a CN8503.
  - NG: Check the FFC (J201) between MAIN BLOCK and FRONT_IO Assys. If there was no problem, replace the FRONT_IO Assy.
- Yes: ↓

Is a signal output from IC5501 (RGBSW)? (pins 30, 32, 34) ㊱㊲㊳
- No: Check around IC5501 and check the communications between IC5501 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
- Yes: ↓

Has the signal arrived at IC4801 (ADC)? (pins 43, 48, 54) ㊴㊵㊶
- No: Check the circuits between IC5501 and IC4801. If there was no problem, replace the MAIN BLOCK Assy.
- Yes: ↓

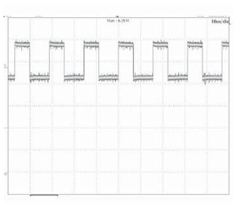
Is the communication between each IC (ADC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?
- No: Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
- Yes: ↓

Replace the MAIN BLOCK Assy.

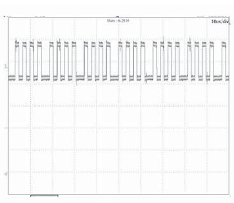
• Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)

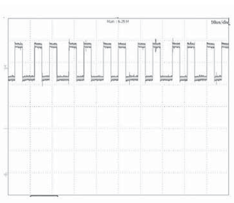
㉛ **IC5501 - pin 2 (G in)**
V: 500 mV/div H: 10 µsec/div



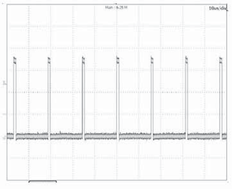
㉜ **IC5501 - pin 4 (B in)**
V: 500 mV/div H: 10 µsec/div



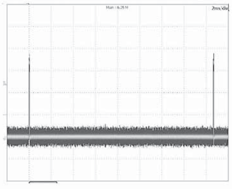
㉝ **IC5501 - pin 6 (R in)**
V: 500 mV/div H: 10 µsec/div



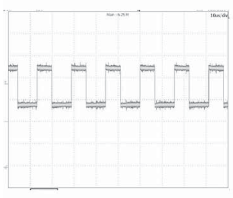
㉞ **IC5501 - pin 14 (HD in)**
V: 1 V/div H: 10 µsec/div
(polarity is no care)



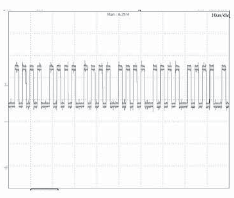
㉟ **IC5501 - pin 15 (VD in)**
V: 1 V/div H: 2 msec/div
(polarity is no care)



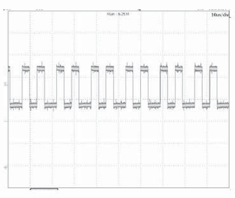
㊱ **IC5501 - pin 34 (G out)**
V: 500 mV/div H: 10 µsec/div



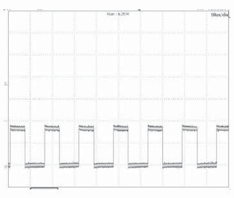
㊲ **IC5501 - pin 32 (B out)**
V: 500 mV/div H: 10 µsec/div



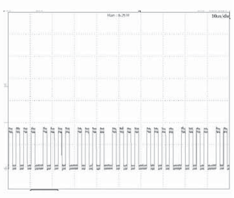
㊳ **IC5501 - pin 30 (R out)**
V: 500 mV/div H: 10 µsec/div



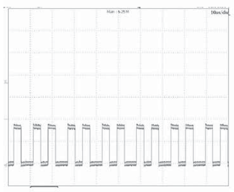
㊴ **IC4801 - pin 48 (G)**
V: 500 mV/div H: 10 µsec/div

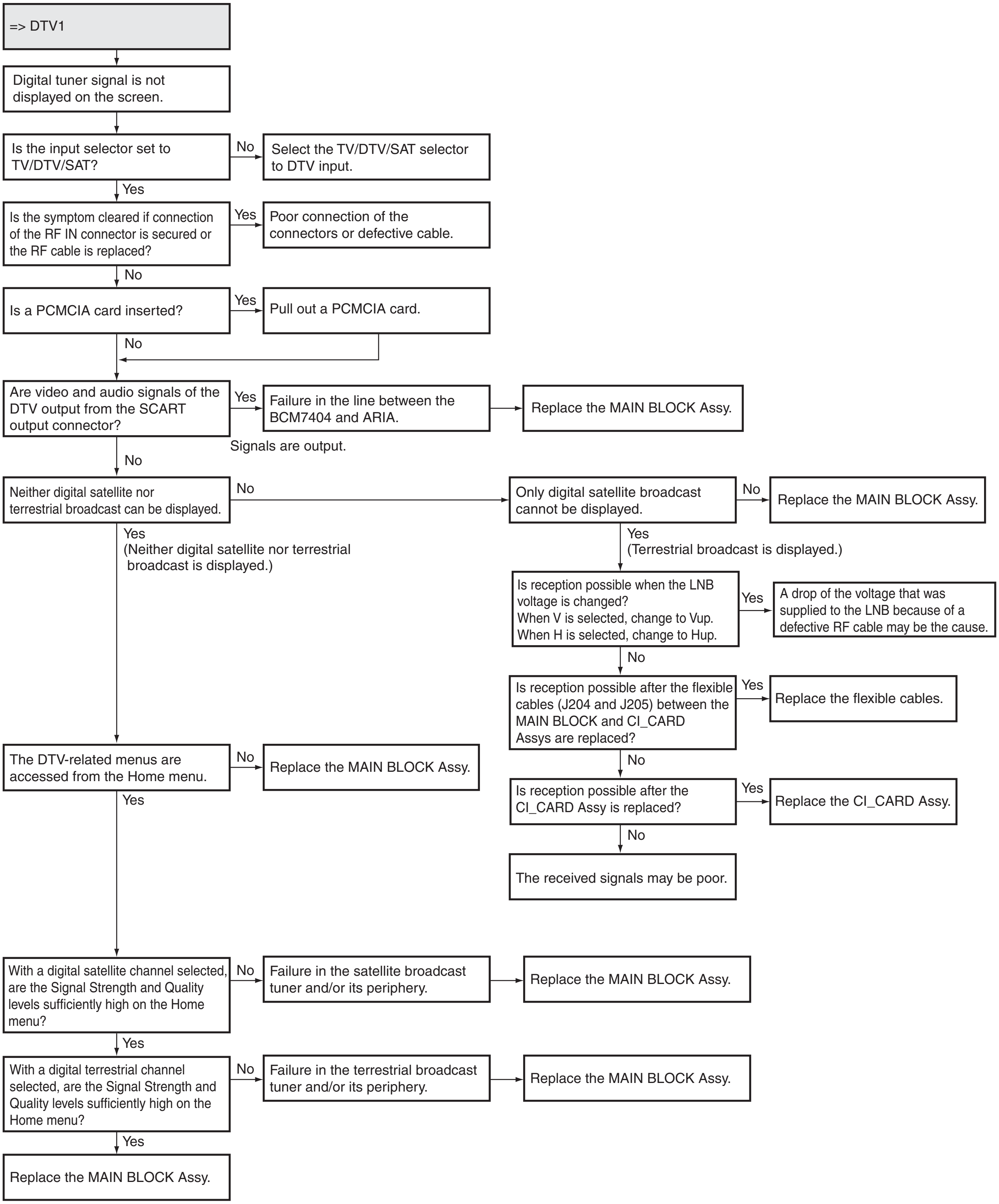


㊵ **IC4801 - pin 43 (B)**
V: 500 mV/div H: 10 µsec/div



㊶ **IC4801 - pin 54 (R)**
V: 500 mV/div H: 10 µsec/div



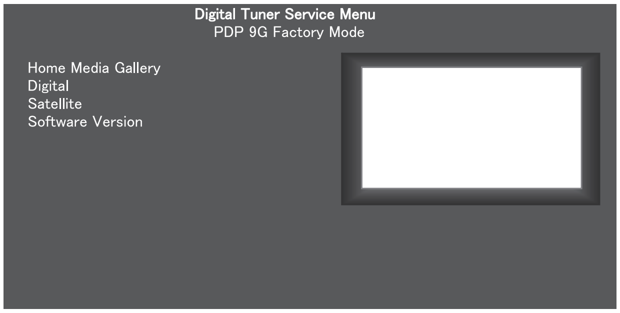

=> DTV1
Digital tuner signal is not displayed on the screen.
Is the input selector set to TV/DTV/SAT?
No
Select the TV/DTV/SAT selector to DTV input.
Yes
Is the symptom cleared if connection of the RF IN connector is secured or the RF cable is replaced?
Yes
Poor connection of the connectors or defective cable.
No
Is a PCMCIA card inserted?
Yes
Pull out a PCMCIA card.
No
Are video and audio signals of the DTV output from the SCART output connector?
Yes
Failure in the line between the BCM7404 and ARIA.
Replace the MAIN BLOCK Assy.
Signals are output.
No
Neither digital satellite nor terrestrial broadcast can be displayed.
No
Only digital satellite broadcast cannot be displayed.
No
Replace the MAIN BLOCK Assy.
Yes
(Neither digital satellite nor terrestrial broadcast is displayed.)
Yes
(Terrestrial broadcast is displayed.)
Is reception possible when the LNB voltage is changed? When V is selected, change to Vup. When H is selected, change to Hup.
Yes
A drop of the voltage that was supplied to the LNB because of a defective RF cable may be the cause.
No
Is reception possible after the flexible cables (J204 and J205) between the MAIN BLOCK and CI_CARD Assys are replaced?
Yes
Replace the flexible cables.
The DTV-related menus are accessed from the Home menu.
No
Replace the MAIN BLOCK Assy.
No
Is reception possible after the CI_CARD Assy is replaced?
Yes
Replace the CI_CARD Assy.
Yes
No
The received signals may be poor.
With a digital satellite channel selected, are the Signal Strength and Quality levels sufficiently high on the Home menu?
No
Failure in the satellite broadcast tuner and/or its periphery.
Replace the MAIN BLOCK Assy.
Yes
With a digital terrestrial channel selected, are the Signal Strength and Quality levels sufficiently high on the Home menu?
No
Failure in the terrestrial broadcast tuner and/or its periphery.
Replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOCK Assy.

[Common to the DTVs 1 and 2]
How to Display the DTB Service Menu

As you can display the DTB Service Menu from Factory mode, you should have a remote control unit that supports Factory mode.

Step 1: Press the FACTORY key on the remote control unit to display the INFORMATION screen in Factory mode.
Step 2: Press the MUTING key on the remote control unit 4 times to display the INITIALIZE screen.
Step 3: Press the ⬇ key on the remote control unit twice so that DTB SERVICE MODE (+) is displayed at the bottom of the screen.
Step 4: Press the ENTER/SET key on the remote control so that MODE SHIFT <=> :No is displayed at the bottom of the screen.
Step 5: Press the ⬅ or ➡ key on the remote control so that MODE SHIFT <=> :YES is displayed at the bottom of the screen.
Step 6: Press the ENTER/SET key on the remote control unit for 5 sec or more to display the DTB Service Menu.

Top page of the DTB Service Menu

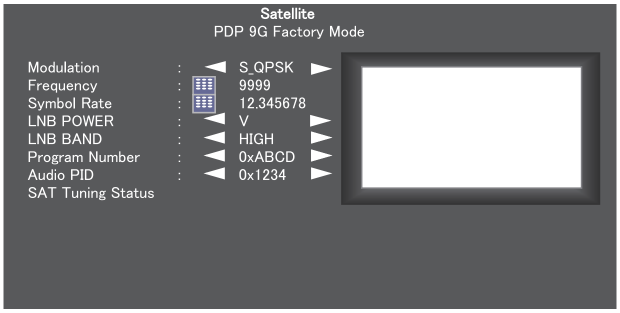


Digital : Service menu for digital terrestrial broadcast reception
Satellite : Service menu for digital satellite broadcast reception

■ How to Change the LNB Voltage on the DTV Service Menu

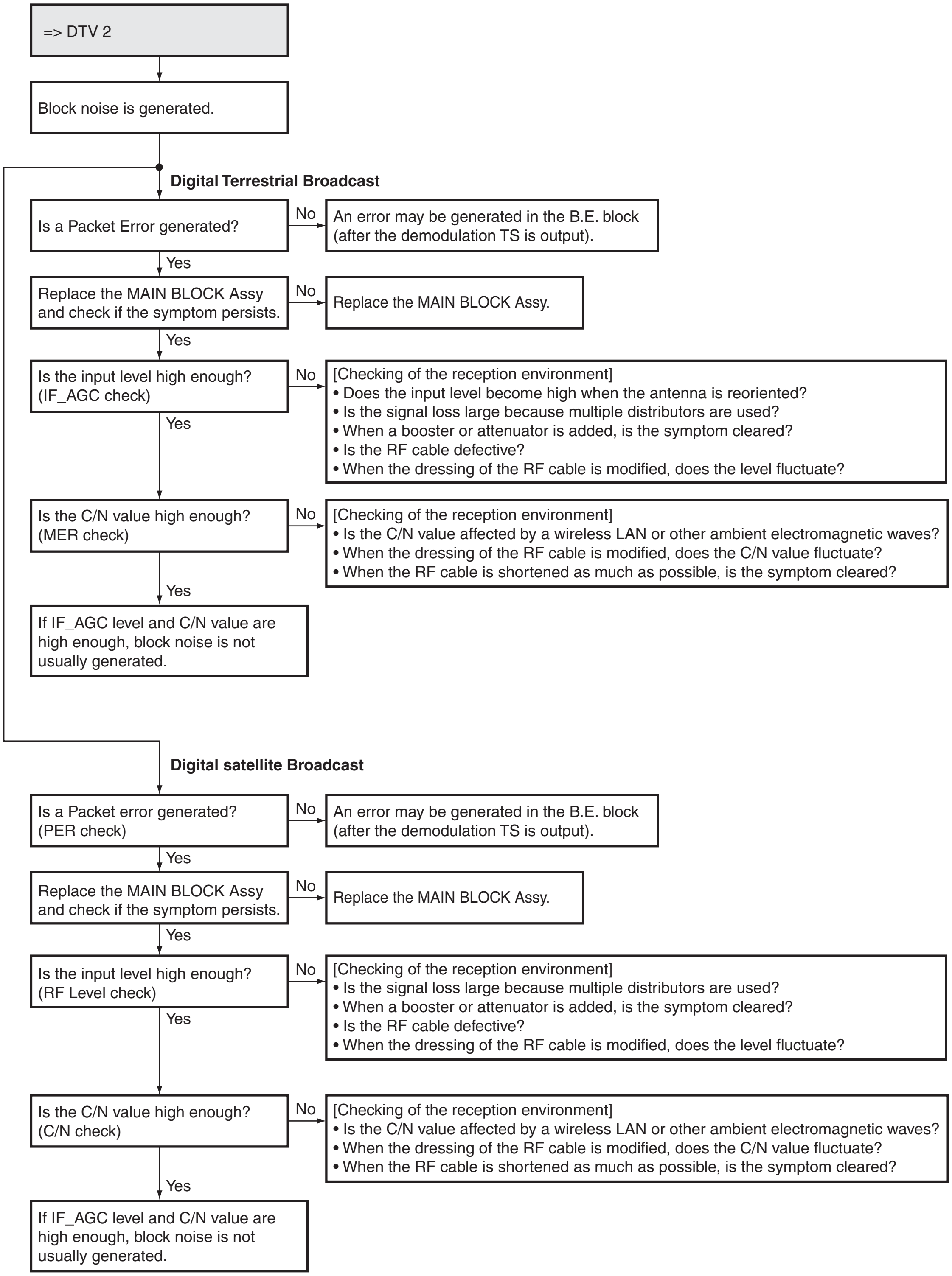
On the Satellite screen of the DTV Service menu below, move the cursor to LNB POWER by using the ⬇ key on the remote control unit then change the LNB voltage, using the ⬅ or ➡ key.

The LNB voltage values are as shown below:
V: 13 V (Typ.)
H: 18 V (Typ.)
Vup: V+1 V
Hup: H+1 V



Satellite
PDP 9G Factory Mode

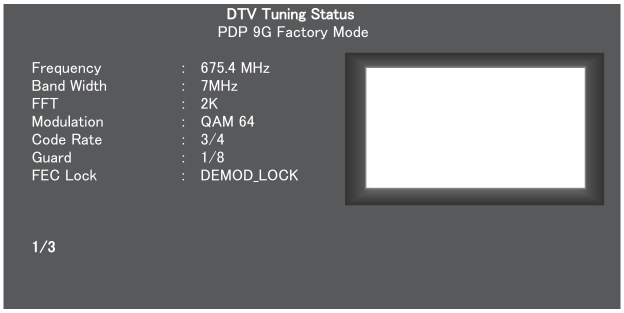
Modulation : ◀ S_QPSK ▶
Frequency : 9999
Symbol Rate : 12.345678
LNB POWER : ◀ V ▶
LNB BAND : ◀ HIGH ▶
Program Number : ◀ 0xABCD ▶
Audio PID : ◀ 0x1234 ▶
SAT Tuning Status


=> DTV 2
Block noise is generated.
Digital Terrestrial Broadcast
Is a Packet Error generated?
No
An error may be generated in the B.E. block (after the demodulation TS is output).
Yes
Replace the MAIN BLOCK Assy and check if the symptom persists.
No
Replace the MAIN BLOCK Assy.
Yes
Is the input level high enough? (IF_AGC check)
No
[Checking of the reception environment]
• Does the input level become high when the antenna is reoriented?
• Is the signal loss large because multiple distributors are used?
• When a booster or attenuator is added, is the symptom cleared?
• Is the RF cable defective?
• When the dressing of the RF cable is modified, does the level fluctuate?
Yes
Is the C/N value high enough? (MER check)
No
[Checking of the reception environment]
• Is the C/N value affected by a wireless LAN or other ambient electromagnetic waves?
• When the dressing of the RF cable is modified, does the C/N value fluctuate?
• When the RF cable is shortened as much as possible, is the symptom cleared?
Yes
If IF_AGC level and C/N value are high enough, block noise is not usually generated.
Digital satellite Broadcast
Is a Packet error generated? (PER check)
No
An error may be generated in the B.E. block (after the demodulation TS is output).
Yes
Replace the MAIN BLOCK Assy and check if the symptom persists.
No
Replace the MAIN BLOCK Assy.
Yes
Is the input level high enough? (RF Level check)
No
[Checking of the reception environment]
• Is the signal loss large because multiple distributors are used?
• When a booster or attenuator is added, is the symptom cleared?
• Is the RF cable defective?
• When the dressing of the RF cable is modified, does the level fluctuate?
Yes
Is the C/N value high enough? (C/N check)
No
[Checking of the reception environment]
• Is the C/N value affected by a wireless LAN or other ambient electromagnetic waves?
• When the dressing of the RF cable is modified, does the C/N value fluctuate?
• When the RF cable is shortened as much as possible, is the symptom cleared?
Yes
If IF_AGC level and C/N value are high enough, block noise is not usually generated.

■ How to Confirm the DTV Tuning Status on the Digital Tuner Service Menu

If block noise is generated, it is necessary to acquire the DTV Tuning Status for the reception frequency of the signal in which block noise is generated. For comparison, it is also necessary to acquire the DTV Tuning Status for another reception frequency of the signal in which block noise is not generated. The DTV Tuning Status page to be acquired is shown below:

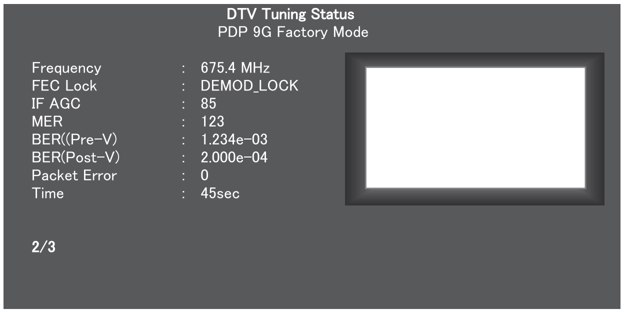
DTV Tuning Status (1/3)



```
DTV Tuning Status
PDP 9G Factory Mode

Frequency      :  675.4 MHz
Band Width     :  7MHz
FFT            :  2K
Modulation     :  QAM 64
Code Rate      :  3/4
Guard          :  1/8
FEC Lock       :  DEMOD_LOCK

1/3
```

Frequency : Frequency of the signal currently being received.
Band Width : Bandwidth of the signal currently being received.
FFT : FFT mode of the signal currently being received (2K or 8K).
Modulation : Modulation method for the signal currently being received.
Code Rate : Code Rate of the signal currently being received.
Guard : Guard Interval of the signal currently being received.
FEC Lock : Current lock status of the receiver. The available lock statuses are as shown below:
DEMOD_LOCK
FEC_LOCK
DRX_LOCK
UNLOCK

DTV Tuning Status (2/3)



```
DTV Tuning Status
PDP 9G Factory Mode

Frequency      :  675.4 MHz
FEC Lock       :  DEMOD_LOCK
IF AGC         :  85
MER            :  123
BER((Pre-V)    :  1.234e-03
BER(Post-V)    :  2.000e-04
Packet Error   :  0
Time           :  45sec

2/3
```

IF AGC : IF AGC level of the signal currently being received. The AGC-level limits in normal reception are shown below. Use the following values only as a guide, because they may be affected by the reception environment.

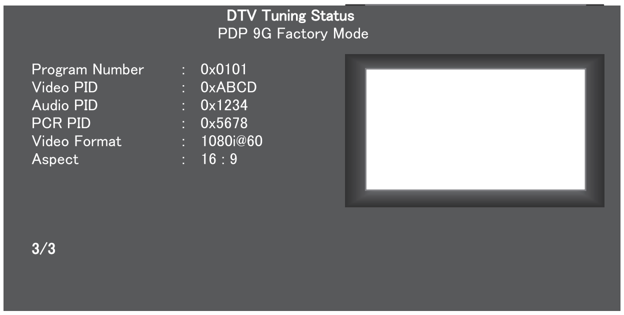
Modulation	Code Rate	Signal-level Limit in Normal Reception
QPSK	1/2	100
	2/3	100
	3/4	100
	5/6	100
	7/8	100
16QAM	1/2	100
	2/3	100
	3/4	100
	5/6	100
	7/8	100
64QAM	1/2	100
	2/3	58
	3/4	56
	5/6	55
	7/8	54

BER (Pre-V) : Pre-Viterbi Bit Error Rate of the signal currently being received.
BER (Post-V) : Post-Viterbi Bit Error Rate of the signal currently being received. If the value is 2.000E-04, block noise is not caused by a problem in the tuner.
Packet Error : Packet error count of the signal currently being received. If the packet error count is "0," block noise caused by the tuner will not be generated.
Time : Measured duration of BER (Pre-V), BER (Post-V), or Packet Error. To reset the value to 0 and restart measuring, press the ⬅ or ➡ key on the remote control unit.

MER : Quality of the signal currently being received. The signal qualities in normal reception are shown below. Use the following values only as a guide.

Modulation	Code Rate	MER Limit in Normal Reception
QPSK	1/2	93
	2/3	85
	3/4	67
	5/6	76
	7/8	82
16QAM	1/2	98
	2/3	116
	3/4	127
	5/6	138
	7/8	145
64QAM	1/2	140
	2/3	170
	3/4	184
	5/6	197
	7/8	206

DTV Tuning Status (3/3)



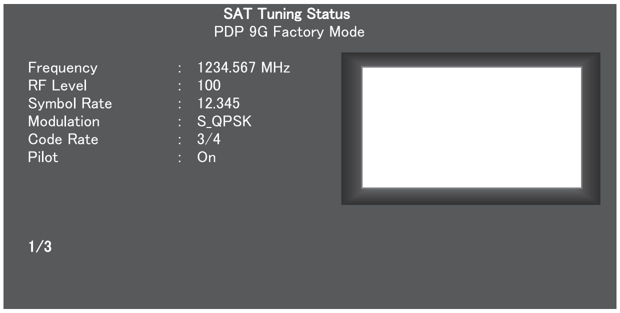
```
                 DTV Tuning Status
                PDP 9G Factory Mode

Program Number    :  0x0101
Video PID         :  0xABCD
Audio PID         :  0x1234
PCR PID           :  0x5678
Video Format      :  1080i@60
Aspect            :  16 : 9


3/3
```

Program Number : No. of the program currently being received.
Video PID : Video PID of the program currently being received.
Audio PID : Audio PID of the program currently being received.
PCR PID : PCR PID of the program currently being received.
Video Format : Video Format of the program currently being received.
Aspect : Aspect ratio of the program currently being received.

■ How to Confirm the SAT Tuning Status on the Digital Tuner Service Menu

If block noise is generated, it is necessary to acquire the SAT Tuning Status for the reception frequency of the signal in which block noise is generated. For comparison, it is also necessary to acquire the SAT Tuning Status for another reception frequency of the signal in which block noise is not generated. The SAT Tuning Status page to be acquired is shown below:

SAT Tuning Status (1/3)



SAT Tuning Status
PDP 9G Factory Mode

Frequency : 1234.567 MHz
RF Level : 100
Symbol Rate : 12.345
Modulation : S_QPSK
Code Rate : 3/4
Pilot : On

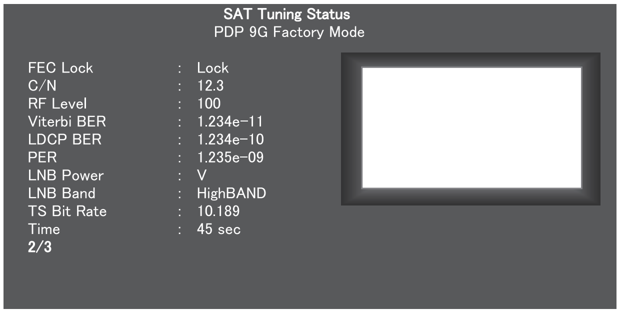
1/3

Frequency : Frequency of the signal currently being received.
RF Level : Level of the signal currently being received. The signal-level limits in normal reception are shown below. Use the following values only as a guide, because they may be affected by the reception environment.

Modulation	Signal-level Limit in Normal Reception
S2_QPSK	50 to 75
S2_8PSK	50 to 75
S_QPSK	50 to 75

Modulation : Modulation method for the signal currently being received.
Symbol Rate : Symbol Rate of the signal currently being received.
Code Rate : Code Rate of the signal currently being received.
Pilot : On/off status of the Pilot signal currently being received.

SAT Tuning Status (2/3)



SAT Tuning Status
PDP 9G Factory Mode

FEC Lock : Lock
C/N : 12.3
RF Level : 100
Viterbi BER : 1.234e−11
LDCP BER : 1.234e−10
PER : 1.235e−09
LNB Power : V
LNB Band : HighBAND
TS Bit Rate : 10.189
Time : 45 sec
2/3

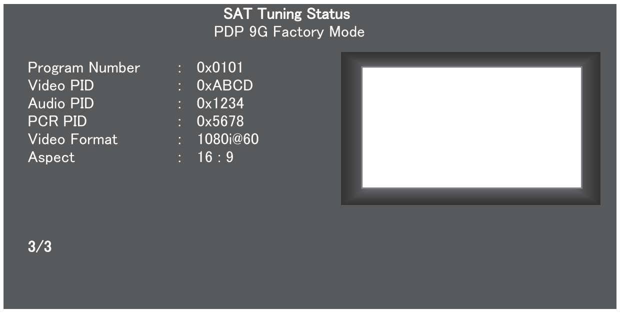
FEC Lock : Current lock/unlock status of the error-correction function of the receiver.
C/N : Current reception C/N. The limit C/Ns in normal reception are shown below. Use the following values only as a guide.

Limit C/N in normal reception

Modulation	Code Rate	Limit C/N in Normal Reception	Modulation	Code Rate	Limit C/N in Normal Reception
S2_QPSK	1/2	1.1	S2_8PSK	3/4	8.1
S2_QPSK	3/5	2.4	S2_8PSK	5/6	9.6
S2_QPSK	2/3	3.2	S2_8PSK	8/9	11.0
S2_QPSK	3/4	4.2	S2_8PSK	9/10	11.3
S2_QPSK	4/5	4.8	S_QPSK	1/2	5.2
S2_QPSK	5/6	5.3	S_QPSK	2/3	7.0
S2_QPSK	8/9	6.4	S_QPSK	3/4	8.0
S2_QPSK	9/10	6.6	S_QPSK	5/6	9.1
S2_8PSK	3/5	7.9	S_QPSK	7/8	9.8
S2_8PSK	2/3	8.0			

Viterbi BER : Bit error rate while the S_QPSK signal is being received. While the S2_QPSK or S2_8PSK signal is received, **** is displayed. If the value is 2e-4 or less, block noise is not caused by a problem in the tuner.
LDCP BER : Bit error rate while the S2_QPSK or S2_8PSK signal is being received. While the S_QPSK signal is received, **** is displayed.
PER : Packet error rate during reception. If the value is 0.000e-00, block noise is not caused by a problem in the tuner.
LNB POWER : Voltage currently being supplied to the LNB
LNB BAND : Frequency band that is currently set to the LNB
TS Bit Rate : TS Bit Rate of the signal currently being received
Time : Measured duration of Viterbi BER, LDCP BER, or PER. To reset the value to 0 and restart measuring, press the ⬅ or ➡ key on the remote control unit.

SAT Tuning Status (3/3)



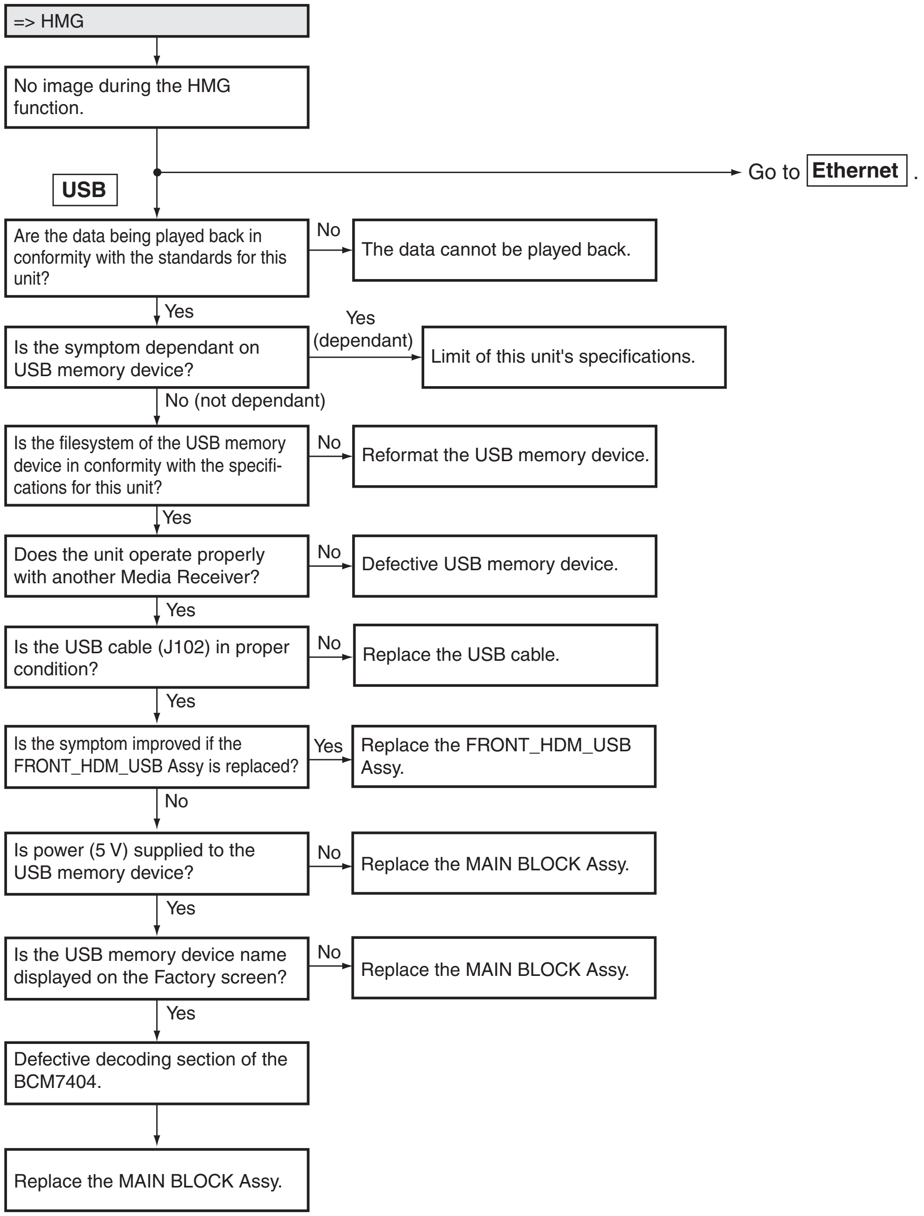
SAT Tuning Status
PDP 9G Factory Mode

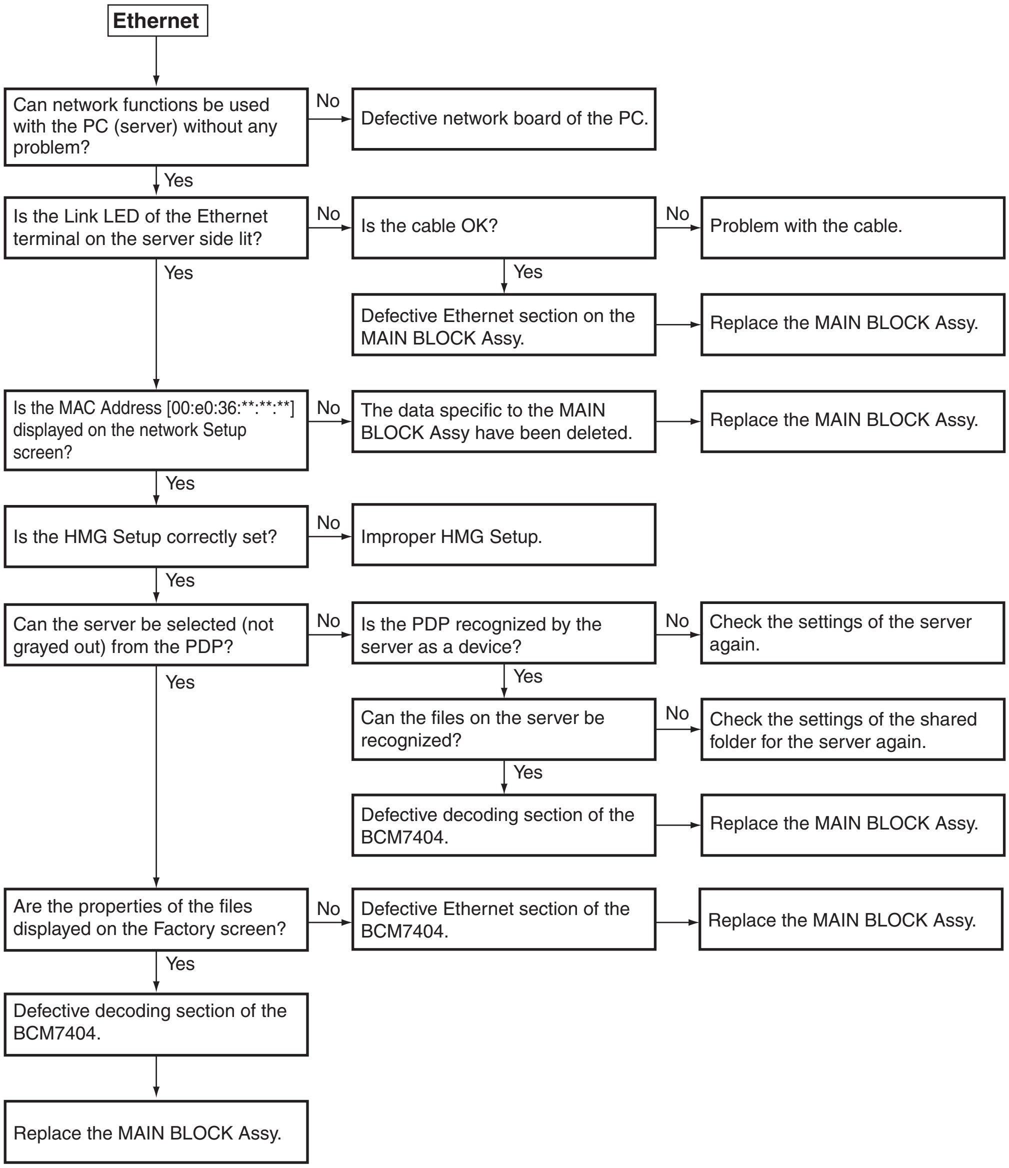
Program Number : 0x0101
Video PID : 0xABCD
Audio PID : 0x1234
PCR PID : 0x5678
Video Format : 1080i@60
Aspect : 16 : 9

3/3

Program Number : No. of the program currently being received.
Video PID : Video PID of the program currently being received.
Audio PID : Audio PID of the program currently being received.
PCR PID : PCR PID of the program currently being received.
Video Format : Video Format of the program currently being received.
Aspect : Aspect ratio of the program currently being received.

Flowchart of Failure Analysis for The HMG


=> HMG
No image during the HMG function.
Go to Ethernet .
USB
Are the data being played back in conformity with the standards for this unit?
No
The data cannot be played back.
Yes
Is the symptom dependant on USB memory device?
Yes (dependant)
Limit of this unit's specifications.
No (not dependant)
Is the filesystem of the USB memory device in conformity with the specifications for this unit?
No
Reformat the USB memory device.
Yes
Does the unit operate properly with another Media Receiver?
No
Defective USB memory device.
Yes
Is the USB cable (J102) in proper condition?
No
Replace the USB cable.
Yes
Is the symptom improved if the FRONT_HDM_USB Assy is replaced?
Yes
Replace the FRONT_HDM_USB Assy.
No
Is power (5 V) supplied to the USB memory device?
No
Replace the MAIN BLOCK Assy.
Yes
Is the USB memory device name displayed on the Factory screen?
No
Replace the MAIN BLOCK Assy.
Yes
Defective decoding section of the BCM7404.
Replace the MAIN BLOCK Assy.


Ethernet
Can network functions be used with the PC (server) without any problem?
No
Defective network board of the PC.
Yes
Is the Link LED of the Ethernet terminal on the server side lit?
No
Is the cable OK?
No
Problem with the cable.
Yes
Defective Ethernet section on the MAIN BLOCK Assy.
Replace the MAIN BLOCK Assy.
Yes
Is the MAC Address [00:e0:36:**:**:**] displayed on the network Setup screen?
No
The data specific to the MAIN BLOCK Assy have been deleted.
Replace the MAIN BLOCK Assy.
Yes
Is the HMG Setup correctly set?
No
Improper HMG Setup.
Yes
Can the server be selected (not grayed out) from the PDP?
No
Is the PDP recognized by the server as a device?
No
Check the settings of the server again.
Yes
Can the files on the server be recognized?
No
Check the settings of the shared folder for the server again.
Yes
Defective decoding section of the BCM7404.
Replace the MAIN BLOCK Assy.
Yes
Are the properties of the files displayed on the Factory screen?
No
Defective Ethernet section of the BCM7404.
Replace the MAIN BLOCK Assy.
Yes
Defective decoding section of the BCM7404.
Replace the MAIN BLOCK Assy.

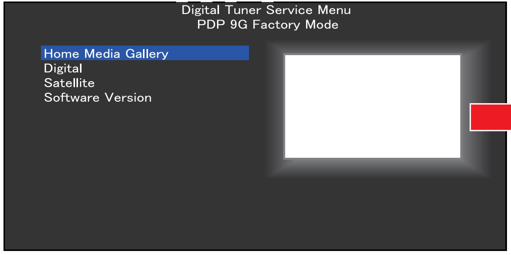
[HMG] How to enter DTB Service menu

Note: Use the remote control unit that supports Factory mode, because the DTB Service menu is accessible from Factory mode.

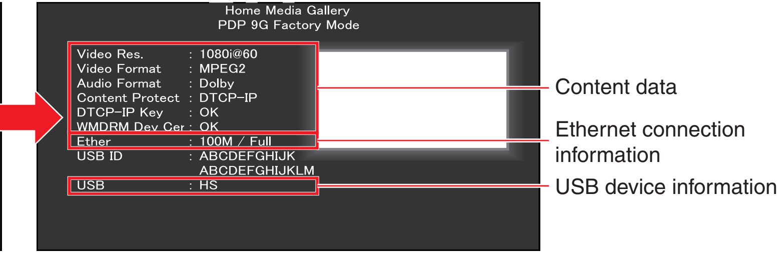
Step 1: Press the FACTORY key on the remote control unit to display the INFORMATION screen of Factory mode.
Step 2: Press the MUTING key on the remote control unit 4 times to display the INITIALIZE screen.
Step 3: Press the ⬇ key on the remote control unit twice to display the “DTB SERVICE MODE (+)” indication at the bottom of the screen.
Step 4: Press the ENTER/SET key on the remote control unit to display the “MODE SHIFT <=>: No” indication at the bottom of the screen.
Step 5: Press the ⬅ or ➡ key on the remote control unit until the “MODE SHIFT <=>: YES” indication is displayed at the bottom of the screen.
Step 6: Press and hold the ENTER/SET key on the remote control unit pressed for 5 seconds or more to activate DTB Service menu.

The Home Media Gallery (HMG) Service menu is indicated below:

Top page of DTB Service menu


Digital Tuner Service Menu
PDP 9G Factory Mode
Home Media Gallery
Digital
Satellite
Software Version

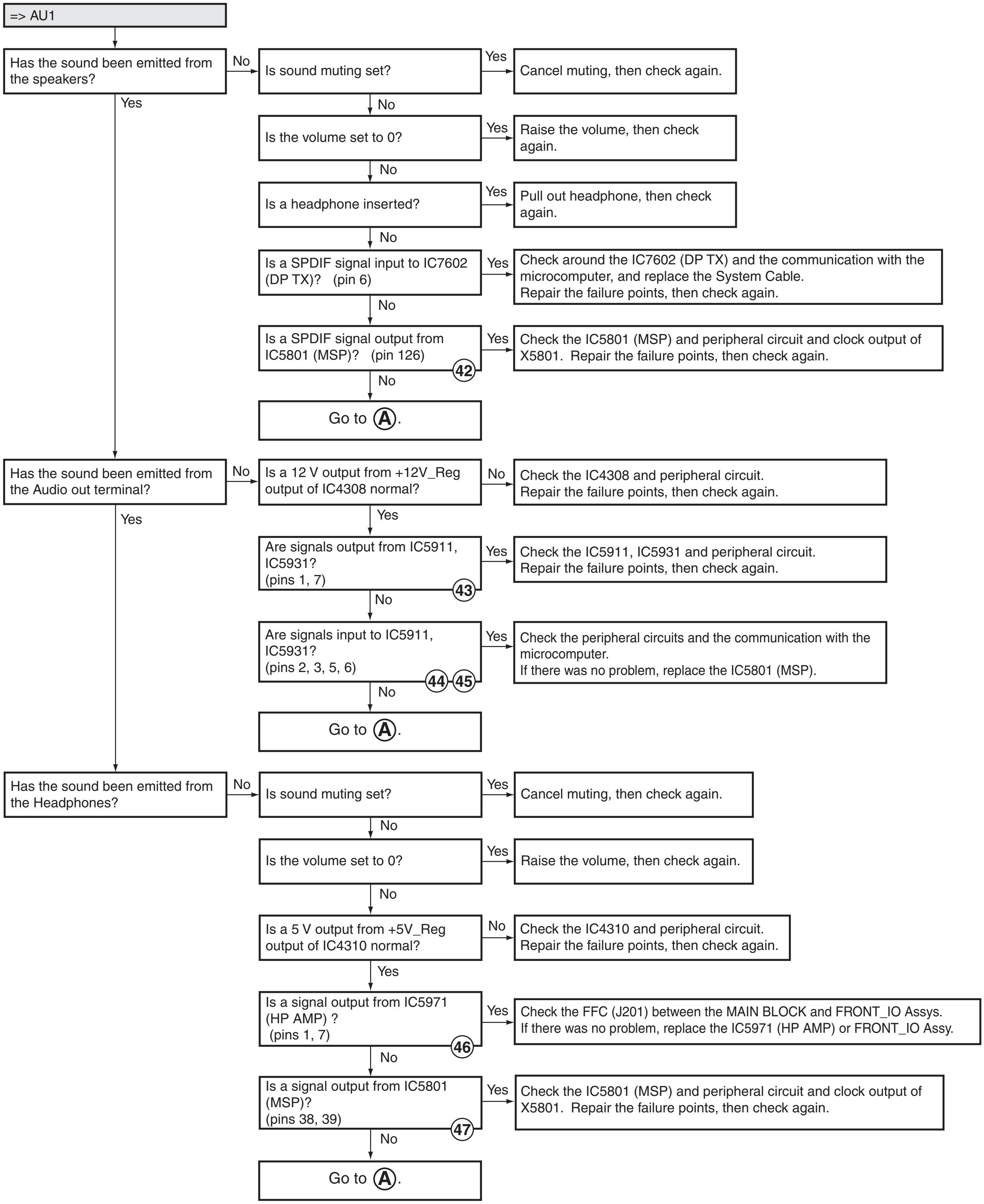
Home Media Gallery Service menu

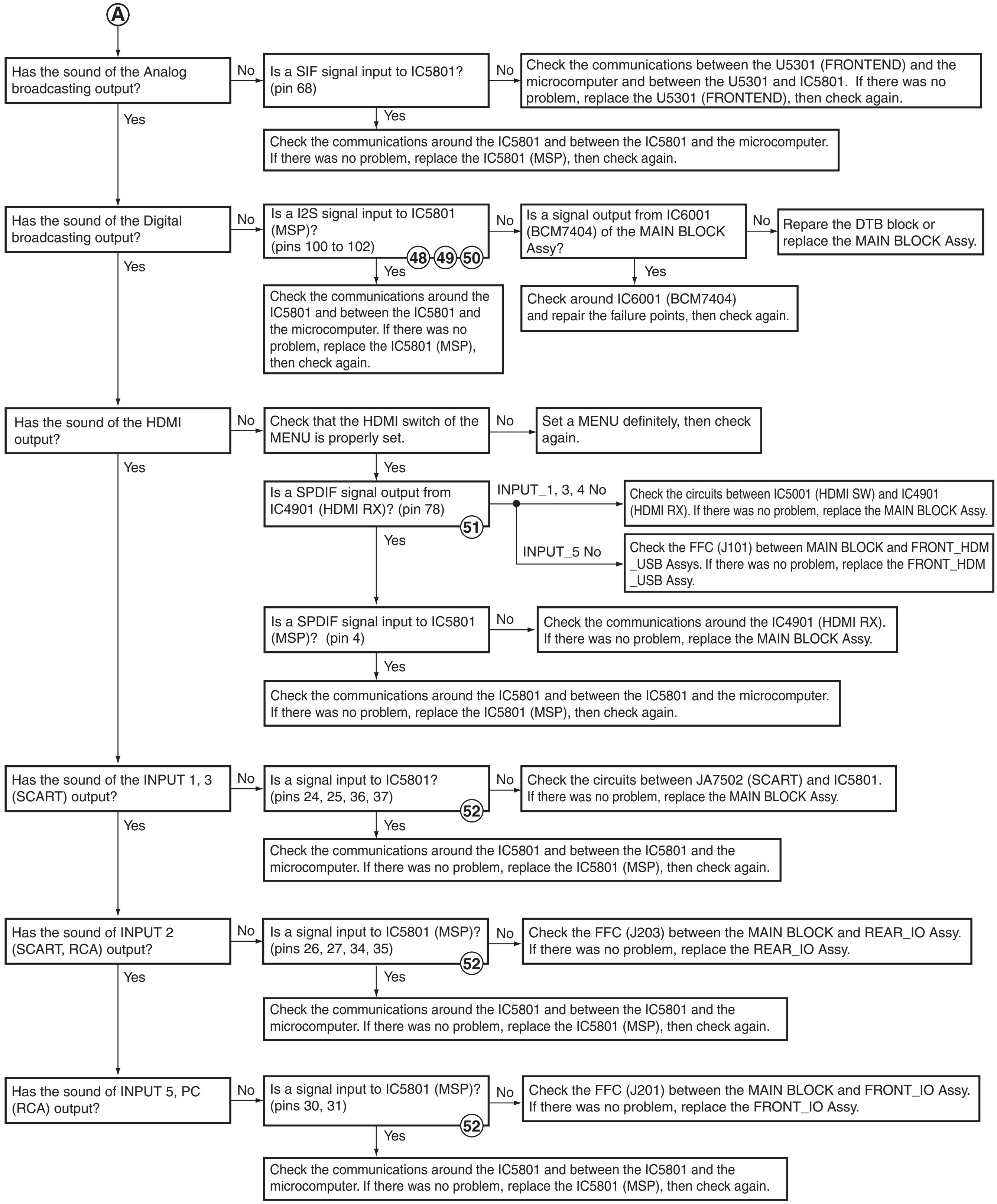

Home Media Gallery
PDP 9G Factory Mode
Content data
Ethernet connection information
USB device information

Video Res. : 1080i@60
Video Format : MPEG2
Audio Format : Dolby
Content Protect : DTCP–IP
DTCP–IP Key : OK
WMDRM Dev Cer : OK
Ether : 100M / Full
USB ID : ABCDEFGHIJK
ABCDEFGHIJKLM
USB : HS

[5] AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System


=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a headphone inserted?
Yes
Pull out headphone, then check again.
No
Is a SPDIF signal input to IC7602 (DP TX)? (pin 6)
Yes
Check around the IC7602 (DP TX) and the communication with the microcomputer, and replace the System Cable. Repair the failure points, then check again.
No
Is a SPDIF signal output from IC5801 (MSP)? (pin 126)
42
Yes
Check the IC5801 (MSP) and peripheral circuit and clock output of X5801. Repair the failure points, then check again.
No
Go to Ⓐ.
Yes
Has the sound been emitted from the Audio out terminal?
No
Is a 12 V output from +12V_Reg output of IC4308 normal?
No
Check the IC4308 and peripheral circuit. Repair the failure points, then check again.
Yes
Are signals output from IC5911, IC5931? (pins 1, 7)
43
Yes
Check the IC5911, IC5931 and peripheral circuit. Repair the failure points, then check again.
No
Are signals input to IC5911, IC5931? (pins 2, 3, 5, 6)
44
45
Yes
Check the peripheral circuits and the communication with the microcomputer. If there was no problem, replace the IC5801 (MSP).
No
Go to Ⓐ.
Yes
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a 5 V output from +5V_Reg output of IC4310 normal?
No
Check the IC4310 and peripheral circuit. Repair the failure points, then check again.
Yes
Is a signal output from IC5971 (HP AMP) ? (pins 1, 7)
46
Yes
Check the FFC (J201) between the MAIN BLOCK and FRONT_IO Assys. If there was no problem, replace the IC5971 (HP AMP) or FRONT_IO Assy.
No
Is a signal output from IC5801 (MSP)? (pins 38, 39)
47
Yes
Check the IC5801 (MSP) and peripheral circuit and clock output of X5801. Repair the failure points, then check again.
No
Go to Ⓐ.



Has the sound of the Analog broadcasting output?

Is a SIF signal input to IC5801? (pin 68)

Check the communications between the U5301 (FRONTEND) and the microcomputer and between the U5301 and IC5801. If there was no problem, replace the U5301 (FRONTEND), then check again.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

Has the sound of the Digital broadcasting output?

Is a I2S signal input to IC5801 (MSP)? (pins 100 to 102)

Is a signal output from IC6001 (BCM7404) of the MAIN BLOCK Assy?

Repare the DTB block or replace the MAIN BLOCK Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

Check around IC6001 (BCM7404) and repair the failure points, then check again.

Has the sound of the HDMI output?

Check that the HDMI switch of the MENU is properly set.

Set a MENU definitely, then check again.

Is a SPDIF signal output from IC4901 (HDMI RX)? (pin 78)

Check the circuits between IC5001 (HDMI SW) and IC4901 (HDMI RX). If there was no problem, replace the MAIN BLOCK Assy.

Check the FFC (J101) between MAIN BLOCK and FRONT_HDM_USB Assys. If there was no problem, replace the FRONT_HDM_USB Assy.

Is a SPDIF signal input to IC5801 (MSP)? (pin 4)

Check the communications around the IC4901 (HDMI RX). If there was no problem, replace the MAIN BLOCK Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

Has the sound of the INPUT 1, 3 (SCART) output?

Is a signal input to IC5801? (pins 24, 25, 36, 37)

Check the circuits between JA7502 (SCART) and IC5801. If there was no problem, replace the MAIN BLOCK Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

Has the sound of INPUT 2 (SCART, RCA) output?

Is a signal input to IC5801 (MSP)? (pins 26, 27, 34, 35)

Check the FFC (J203) between the MAIN BLOCK and REAR_IO Assy. If there was no problem, replace the REAR_IO Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

Has the sound of INPUT 5, PC (RCA) output?

Is a signal input to IC5801 (MSP)? (pins 30, 31)

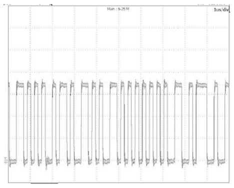
Check the FFC (J201) between the MAIN BLOCK and FRONT_IO Assy. If there was no problem, replace the FRONT_IO Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

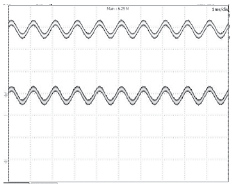
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

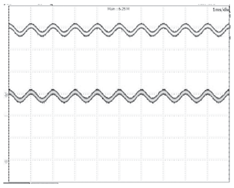
(42) IC5801 - pin 126
V: 1 V/div H: 1 μS/div



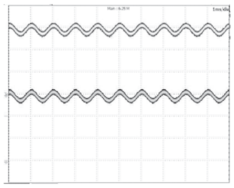
(43) IC5931 - pins 1, 7
V: 2 V/div H: 1 mS/div



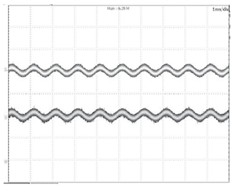
(44) IC5931 - pins 2, 3
V: 2 V/div H: 1 mS/div



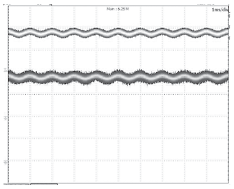
(45) IC5931 - pins 5, 6
V: 2 V/div H: 1 mS/div



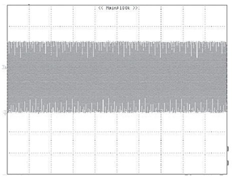
(46) IC5971 - pins 1, 7
V: 1 V/div H: 1 mS/div



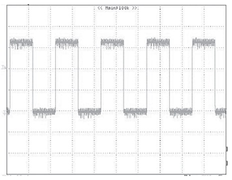
(47) IC5801 - pins 38, 39
V: 1 V/div H: 1 mS/div



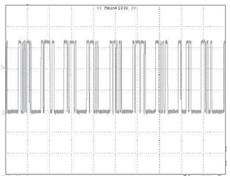
(48) IC5801 - pin 100
V: 1 V/div H: 10 μS/div



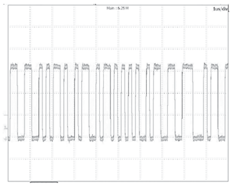
(49) IC5801 - pin 101
V: 1 V/div H: 10 μS/div



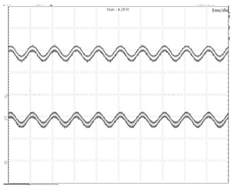
(50) IC5801 - pin 102
V: 1 V/div H: 10 μS/div



(51) IC4901 - pin 78
V: 1 V/div H: 1 μS/div



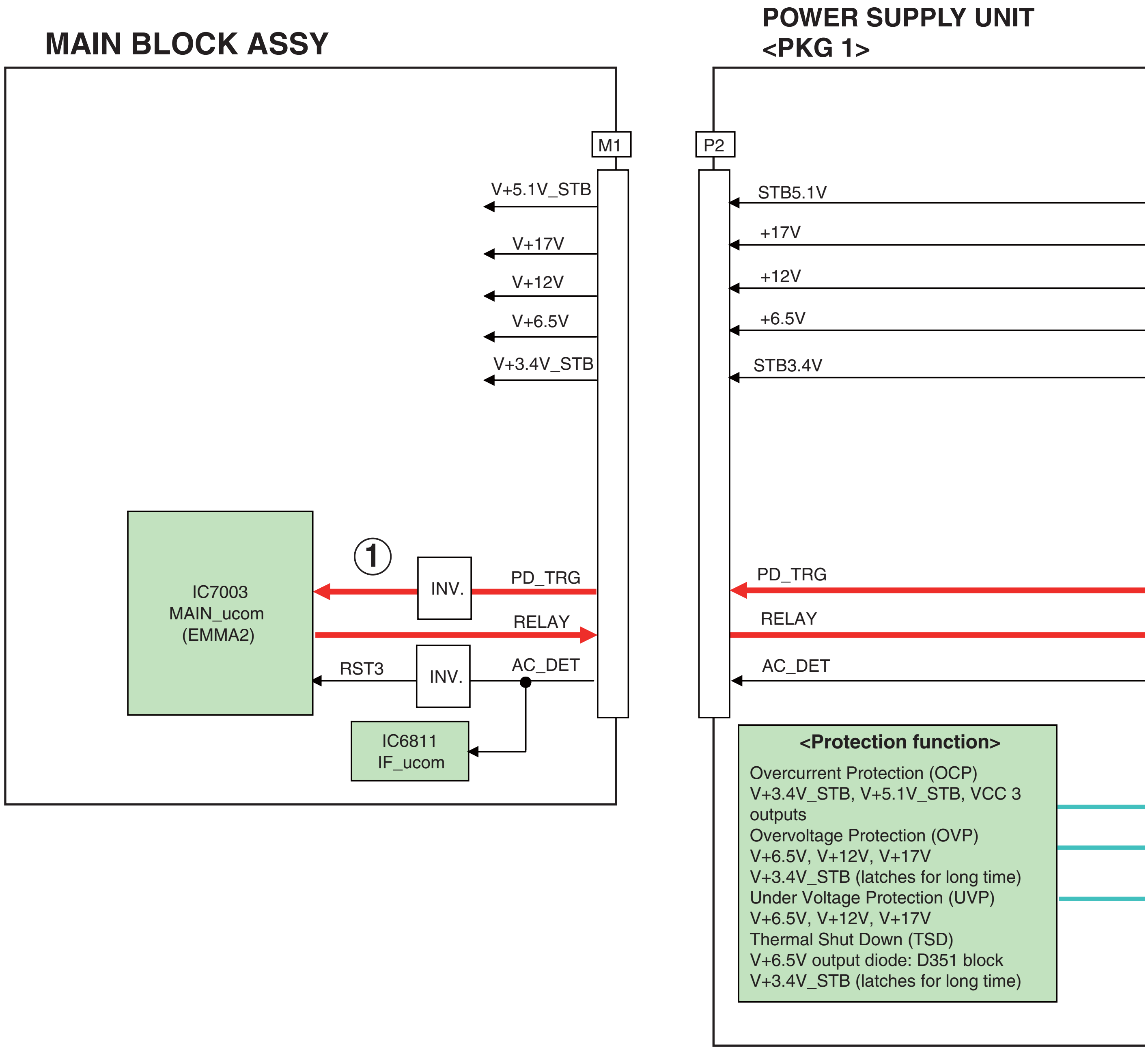
(52) IC5801 - pins 24, 25
V: 2 V/div H: 1 mS/div



5.3 DIAGNOSIS OF PD (POWER-DOWN)

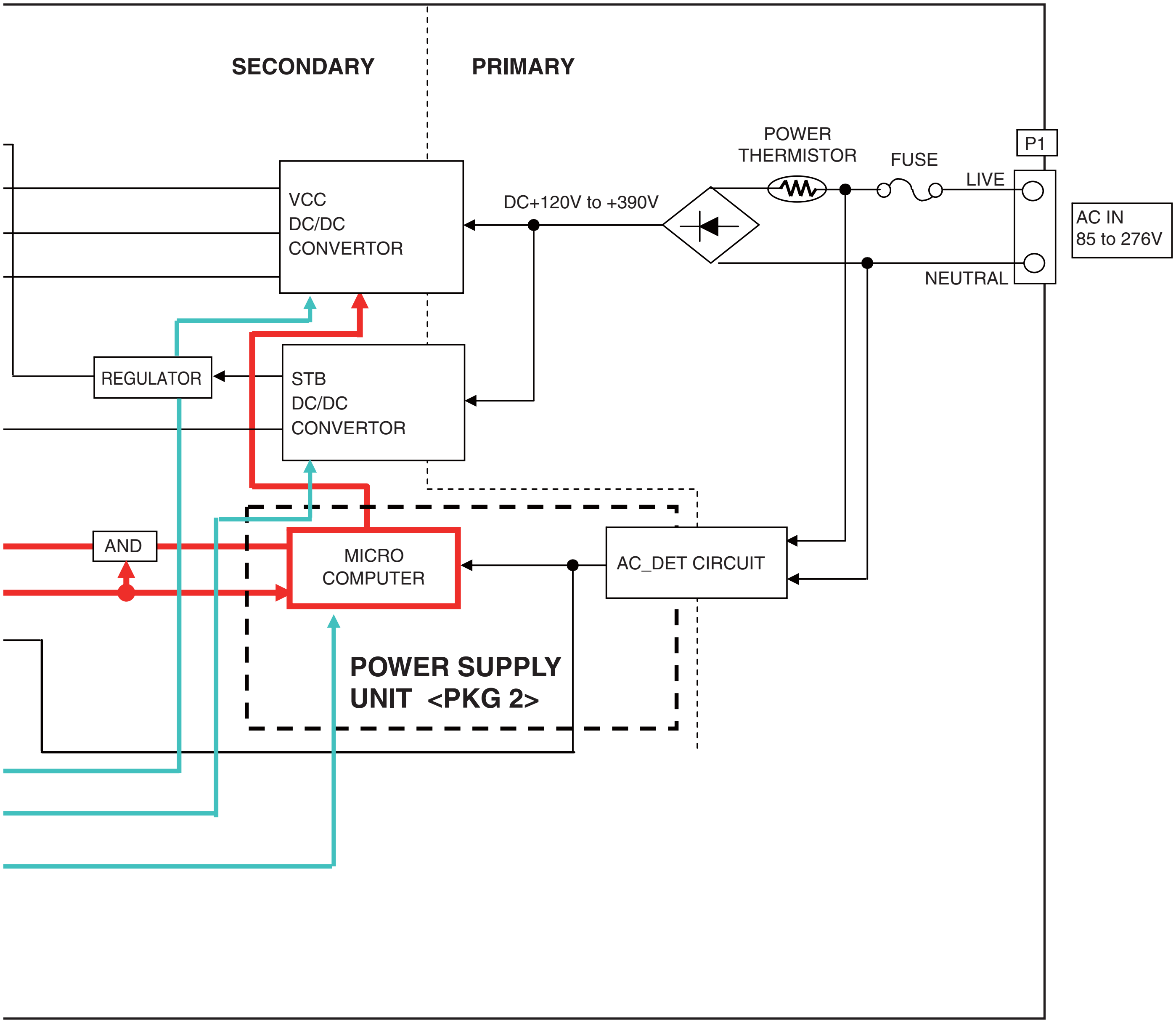
[1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

Note:
The figure ① indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.


MAIN BLOCK ASSY
POWER SUPPLY UNIT
<PKG 1>
M1
P2
V+5.1V_STB
V+17V
V+12V
V+6.5V
V+3.4V_STB
STB5.1V
+17V
+12V
+6.5V
STB3.4V
IC7003
MAIN_ucom
(EMMA2)
①
INV.
PD_TRG
RELAY
RST3
INV.
AC_DET
IC6811
IF_ucom
PD_TRG
RELAY
AC_DET

<Protection function>

Overcurrent Protection (OCP)
V+3.4V_STB, V+5.1V_STB, VCC 3 outputs
Overvoltage Protection (OVP)
V+6.5V, V+12V, V+17V
V+3.4V_STB (latches for long time)
Under Voltage Protection (UVP)
V+6.5V, V+12V, V+17V
Thermal Shut Down (TSD)
V+6.5V output diode: D351 block
V+3.4V_STB (latches for long time)


SECONDARY
PRIMARY
VCC
DC/DC
CONVERTOR
DC+120V to +390V
POWER
THERMISTOR
FUSE
LIVE
P1
AC IN
85 to 276V
NEUTRAL
REGULATOR
STB
DC/DC
CONVERTOR
AND
MICRO
COMPUTER
AC_DET CIRCUIT
POWER SUPPLY
UNIT <PKG 2>

[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

■ How to Distinguish the PD (Power-Down)

About the LED for checking causes of power-down

No LED for checking causes of power-down is provided for the POWER SUPPLY Unit of the MR.
However, by checking the waveforms at terminals of the microcomputer, whether a power-down was caused by failure in the POWER SUPPLY Unit, and if it was, which power system among the four was in failure can be inferred.
The points at which to check waveforms and how to distinguish power-down causes are described below:

<Points at which to Check Waveforms>

Waveforms between Pin 3 of CN801 and GND (secondary radiator, display chassis, etc.)
Refer to the section “Note on Removing the POWER SUPPLY Unit from the Chassis and Method for Resettig Standby Power Latchup” in the “7.2 DISASSEMBLY”.

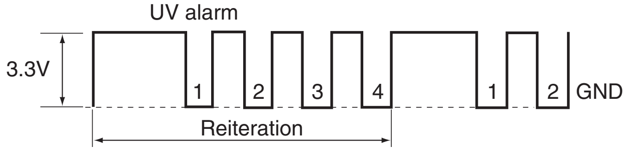
<How to Distinguish>

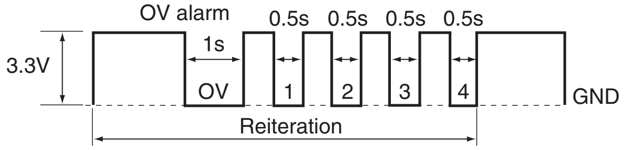
If a power-down was caused by failure in the POWER SUPPLY Unit, a pulse waveform is output at the above-mentioned points. (It is assumed that STB3.4 V power is properly output.)
By counting the frequency of “Lo” in the pulse waveform, the cause of power-down can be identified.

Frequency of “Lo”	Cause	
	Output Voltage	Overvoltage (OV) or Undervoltage (UV)
Once	+12V	OV or UV *
Twice	+17V	OV or UV *
3 times	+6.5V	OV or UV *
4 times	Protection against overheat	

***How to distinguish OV and UV:**
If the first “Lo” duration of a pulse is long (1 s), the cause is OV.
As the three output voltages are electromagnetically linked and interact with one another, the frequency may vary among 1-3, depending on the type of power-down.

Examples:





How to Diagnose the PD

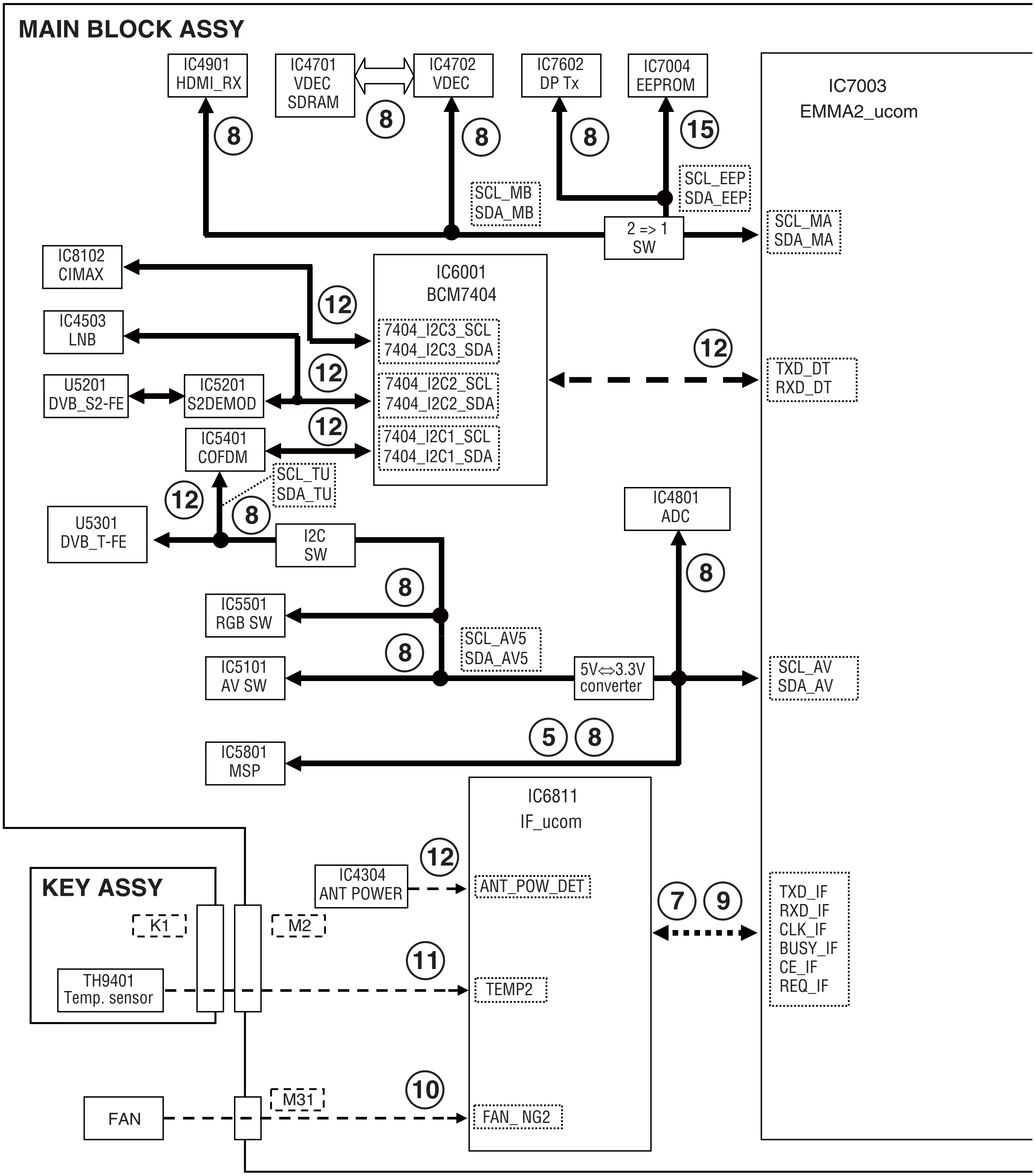
Frequency of LED Flashing	History Indication in Factory Mode	Assy	Cause of power-down (activated protection circuit)	Point to be Checked	Possible Defective Parts
Red, once	MR-PWR	MAIN BLOCK Assy	Overcurrent in 6.5 V power	5V_ANT-REG	IC4305, C4305
				5V_IO-REG	IC4310, C4301
				3CH-DD converter	IC4402 C4405, C4406, C4409, C4463, C4464, C4466 to C4468
				FET	Q4417, Q4416, Q4411
				1CH-DD converter	IC4501, C4517
			Overcurrent in 12 V power	FAN-REG	IC4302, C4342
				8V_IO-REG	IC4309, C4315
				LNB	IC4503
			Overcurrent in 17 V power	12V_IO-REG	IC4308, C4303
			Overcurrent in 3.4 V power	1.8V_IO-REG	IC4604, C4609 C4820, C8103
		POWER SUPPLY Unit	V+6.5V UVP	TP V+6.5V	Voltage drop due to overcurrent on the load side
			V+12V UVP	TP V+12V	Voltage drop due to overcurrent on the load side
			V+17V UVP	TP V+17V	Voltage drop due to overcurrent on the load side
			STB3.4V OCP	TP STB3.4V	C151, C153, C152, D152, or Z152, and abnormal current on the load side that is connected to STB3.4 V power
			STB5.1V OCP	TP STB5.1V	C155 and abnormal current on the load side that is connected to STB5.1 V power And abnormal current on the load side that is connected to STB5.1 V power
			VCC OCP	TP V+6.5V	D351, C351, C352, C353, and abnormal current on the load side that is connected to V+6.5V power
				TP V+12V	D352, C357, C358, and abnormal current on the load side that is connected to V+12V power
				TP V+17V	D353, C359, and abnormal current on the load side that is connected to V+17V power
			STB3.4V OVP	TP STB3.4V	PC121
			VCC OVP	TP V+6.5V TP V+12V	PC301, Breakage in the line to/from the P2 output connector
			STB3.4V TSD		Z121 control IC and abnormal current on the load side that is connected to STB3.4 V power
			V+6.5V Rectifier diode (D351) TSD		D351 or D352, and abnormal current on the load sides that is connected to V+6.5 V and V+12 V

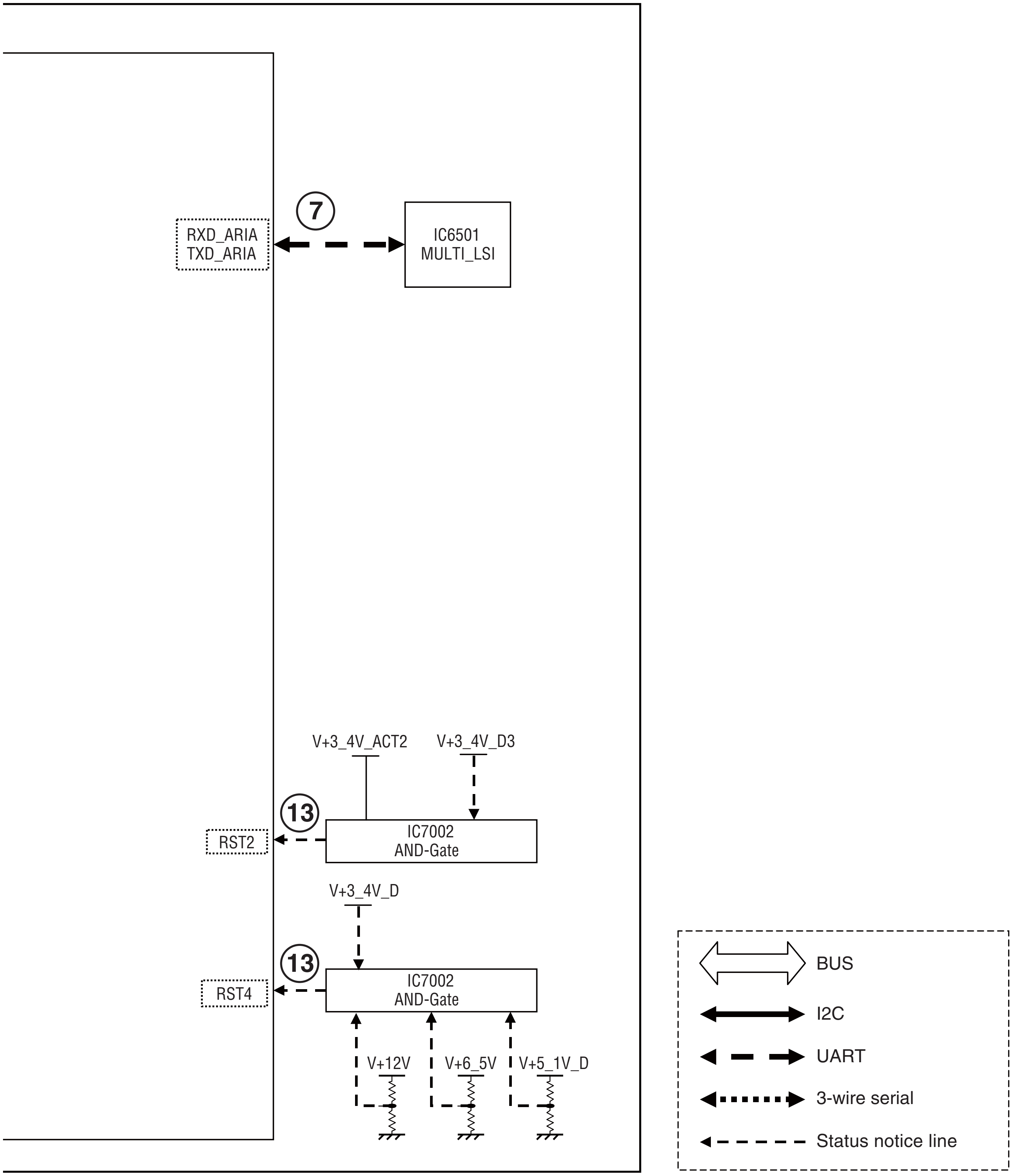
Note: Although replacement of the whole POWER SUPPLY Unit is required (replacement of only defective parts on the POWER SUPPLY Unit is not possible), the circuit symbols are described for reference

5.4 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route. ⑫ LED is not flashed.


MAIN BLOCK ASSY
IC4901 HDMI_RX
IC4701 VDEC SDRAM
IC4702 VDEC
IC7602 DP Tx
IC7004 EEPROM
IC7003 EMMA2_ucom
⑧
⑧
⑧
⑧
⑮
SCL_MB SDA_MB
SCL_EEP SDA_EEP
2 => 1 SW
SCL_MA SDA_MA
IC8102 CIMAX
IC4503 LNB
U5201 DVB_S2-FE
IC5201 S2DEMOD
IC5401 COFDM
IC6001 BCM7404
7404_I2C3_SCL 7404_I2C3_SDA
7404_I2C2_SCL 7404_I2C2_SDA
7404_I2C1_SCL 7404_I2C1_SDA
⑫
⑫
⑫
⑫
⑫
TXD_DT RXD_DT
SCL_TU SDA_TU
U5301 DVB_T-FE
I2C SW
⑧
IC4801 ADC
⑧
IC5501 RGB SW
⑧
IC5101 AV SW
⑧
SCL_AV5 SDA_AV5
5V⇔3.3V converter
SCL_AV SDA_AV
IC5801 MSP
⑤ ⑧
IC6811 IF_ucom
IC4304 ANT POWER
⑫
ANT_POW_DET
KEY ASSY
K1
M2
TH9401 Temp. sensor
⑪
TEMP2
⑦ ⑨
TXD_IF RXD_IF CLK_IF BUSY_IF CE_IF REQ_IF
FAN
M31
⑩
FAN_ NG2



RXD_ARIA
TXD_ARIA
7
IC6501
MULTI_LSI
V+3_4V_ACT2
V+3_4V_D3
13
RST2
IC7002
AND-Gate
V+3_4V_D
13
RST4
IC7002
AND-Gate
V+12V
V+6_5V
V+5_1V_D
BUS
I2C
UART
3-wire serial
Status notice line

[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode	
			MAIN	SUB
Blue 5	Audio	Abnormality in MSP	AUDIO	MSPMAP
Blue 7	Failure in 3-wire serial communication with the main microcomputer	IF microcomputer	MA-3L	IF
		MULTI		MULTI
Blue 8	Failure in IIC communication with the main microcomputer	Tuner1	MA-IIC	FE1
		MSP/MAP		MSPMAP
		AV Switch		AV-SW
		RGB Switch		RGB-SW
		Main VDEC		VDEC
		VDEC SDRAM		SDRAM
		AD/PLL		ADC
		HDMI		HDMI
		DisplayPort Tx		DP-TX
Blue 9	Failure in communication with the main microcomputer	–	MAIN	–
Blue 10	Abnormality in FAN	FAN2	FAN	FAN2
Blue 11	High temperature of the unit	–	TEMP2	–
Blue 12 (Actually, Blue 12 LED is not flashed.)	Digital Tuner	DTV start up error	DTUNER	PS/RST
		DTV communication error		RETRY
		DEVICE ERR		DEVICE
		Tuner1		DE-FE
		DTV Antenna		D-ANT
		Application		DTVAPP
		COFDM		DEMOD
		Tuner S2		DE-FES
		S2DEMOD		DEMODS
		LNB		DE-LNB
		S2 Antenna		S-ANT
Blue 13	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC
		POWER SUPPLY		RELAY
Blue 15	Main EEPROM	Main EEPROM communication error	MA-EEP	–

Checkpoint	Possible Defective Part	Remarks
Power supply for MSP and MSP	IC5801, IC4604, Q4616	Check the MSP, its power and periphery parts (e.g. reset line).
Communication line between IF and MAIN	IC7003, IC6811	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF)
Communication line between MULTI and MAIN	IC7003, IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA)
IIC communication line between Tuner and MAIN	U5301, IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV)
IIC communication line between MSP/MAP and MAIN	IC5801, IC7003	Check the communication lines (SCL_AV/SDA_AV)
IIC communication line between AV_SW and MAIN	IC5101, IC7003	Check the communication lines (SCL_AV5/SDA_AV5)
IIC communication line between RGB_SW and MAIN	IC5501, IC7003	Check the communication lines (SCL_AV5/SDA_AV5)
IIC communication line between M_VDEC and MAIN	IC4702, IC7003	Check the communication lines (SCL_MB/SDA_MB)
Communication line between VDEC and SDRAM	IC4701, IC4702	Check the communication lines (SDRAM), Failure in SDRAM
IIC communication line between ADC and MAIN	IC4801, IC7003	Check the communication lines (SCL_AV/SDA_AV)
IIC communication line between HDMI_RX and MAIN	IC4901, IC7003	Check the communication lines (SCL_MB/SDA_MB)
IIC communication line between DP_TX and MAIN	IC7602, IC7003	Check the communication lines (SCL_EEP/SDA_EEP)
Communication line between IF and MAIN	IC6811, IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF /REQ_IF)
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN		FAN_NG
Periphery of the cable at M31		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4302	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH9401	TEMP2
Periphery of the cable between M2 and K1	CN4204, CN9401	Check if cables are firmly connected.
Startup of BCM7404	IC6001	Check the startup of the BCM7404 and the communication line with MAIN
Communication line between BCM7404 and MAIN	IC6001	Check the startup of the BCM7404 and the communication line with MAIN
Periphery of the BCM7404	IC6001	
Front-end block	IC6001, U5301	Check the BCM7404, terrestrial tuner and periphery devices.
Antenna supply voltage	IC4304	Check the IC4304 (overcurrent detection IC), its periphery devices and antenna connection line.
DTV application	IC6001	
COFDM	IC5401	Check the communication line between BCM7404 and COFDM
Tuner S2	U5201	Check the communication line between S2DEMOD and F.E.
S2DEMOD	IC5201	Check the communication line between BCM7404 and S2DEMOD
LNB	IC4503	Check the communication line between BCM7404 and LNB IC, and check the periphery parts of LNB IC.
Antenna supply voltage	IC4503	Check the LNB IC and periphery parts, and antenna connection line.
RST2 V+3_4V_ACT2, V+3_4V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V_D, V+3_4V_D	IC7002	Check if each voltages are started.
V+12V, V+6_5V, V+17V	POWER SUPPLY Unit	Check if each voltages are started.
Check the cable M1	CN4203	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EEP/SDA_EEP)

5.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 1 or 3 to 5 signal is not correct.	The color setting for INPUT 1 or 3 to 5 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 1 or 3 to 5 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 1 or 3 is not output. No HDMI signal is input.	The audio setting for INPUT 1 or 3 is any setting, and a video signal is not input. If the audio setting is any setting, to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 1 or 3 to 5 is output.	The setting on the side of the HDMI output equipment is wrong. Example: Dolby Digital
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
SCART video output	
The video output signal from the SCART connector is deteriorated. Or when the video output signal from the SCART connector is recorded, its playback picture is deteriorated.	The video signal output from the SCART connector is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 2.	The video signal is not output from the SCART connector when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 1 or 3 to 5.	The video signal is not output from the SCART connector when the HDMI signal is selected.
AUDIO OUT and SCART	
The image displayed on the PDP is not synchronized with the sound from the SCART.	The audio signal from the SCART connector is synchronized with the video output signal from the SCART connector. And the audio signal from the AUDIO OUT is synchronized with the video signal that is currently displayed.
DIGITAL OUT	
Playback of the signal from the DIGITAL audio output connector is possible, but recording is not possible.	The video signal output from the DIGITAL connector is copy-protected.
The digital audio output signal from the DIGITAL connector is not synchronized with that from the SCART video output.	The digital audio output signal from the DIGITAL connector is synchronized with the video signal that is currently displayed, and not with the SCART video output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
Control via the SR connector is not possible.	Wrong connection of the cable to the PC INPUT (AUDIO) connector is suspected.
The audio signal from the PC is not output.	Wrong connection of the cable to the SR connector is suspected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	As the signal input to the connector that has been selected on the INPUT SELECT submenu of the Home menu is selected (this does not apply to the connectors located on the side of the unit), check the menu setting. If the output signal is not available even if the input signal is properly selected, input a signal to other input functions, check the connecting cables, or check the settings for the connected equipment. Note that if cables are connected to both the HDMI connector and composite video connector of INPUT 5, the HDMI connector will have priority over the composite video connector.
The video signal to the composite video connector is not displayed.	

SUPPLEMENT: On the video setting for HDMI

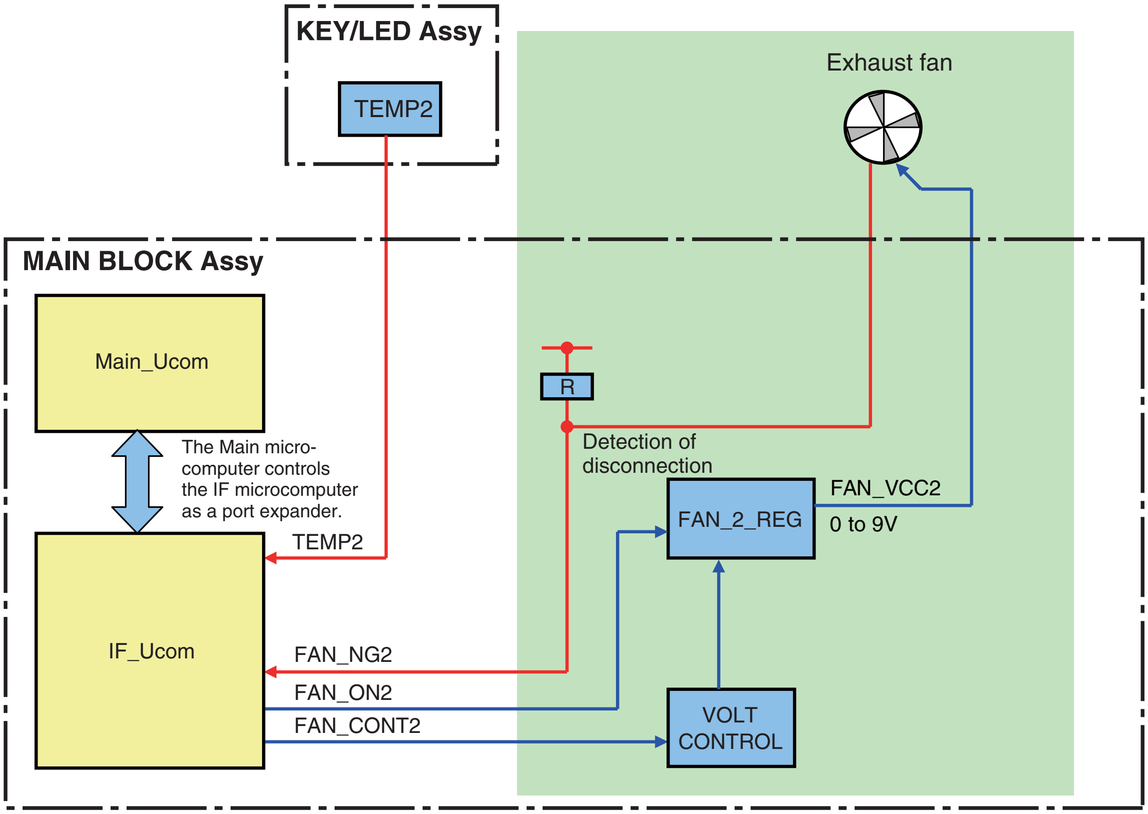
There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)

It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

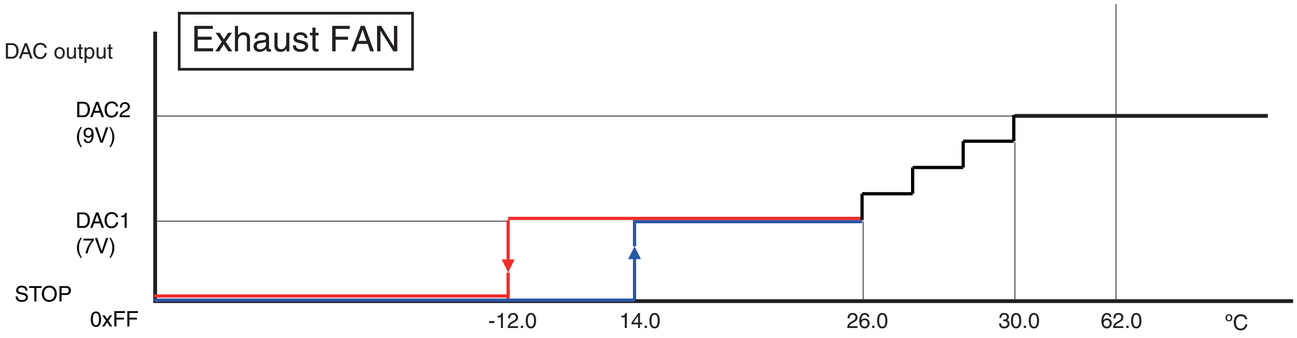
5.6 OUTLINE OF THE OPERATION

[1] SPECIFICATION OF THE FAN CONTROL

■ Block diagram


KEY/LED Assy
TEMP2
Exhaust fan
MAIN BLOCK Assy
Main_Ucom
The Main micro-computer controls the IF microcomputer as a port expander.
TEMP2
IF_Ucom
R
Detection of disconnection
FAN_2_REG
FAN_VCC2
0 to 9V
FAN_NG2
FAN_ON2
FAN_CONT2
VOLT CONTROL

■ Operation specifications



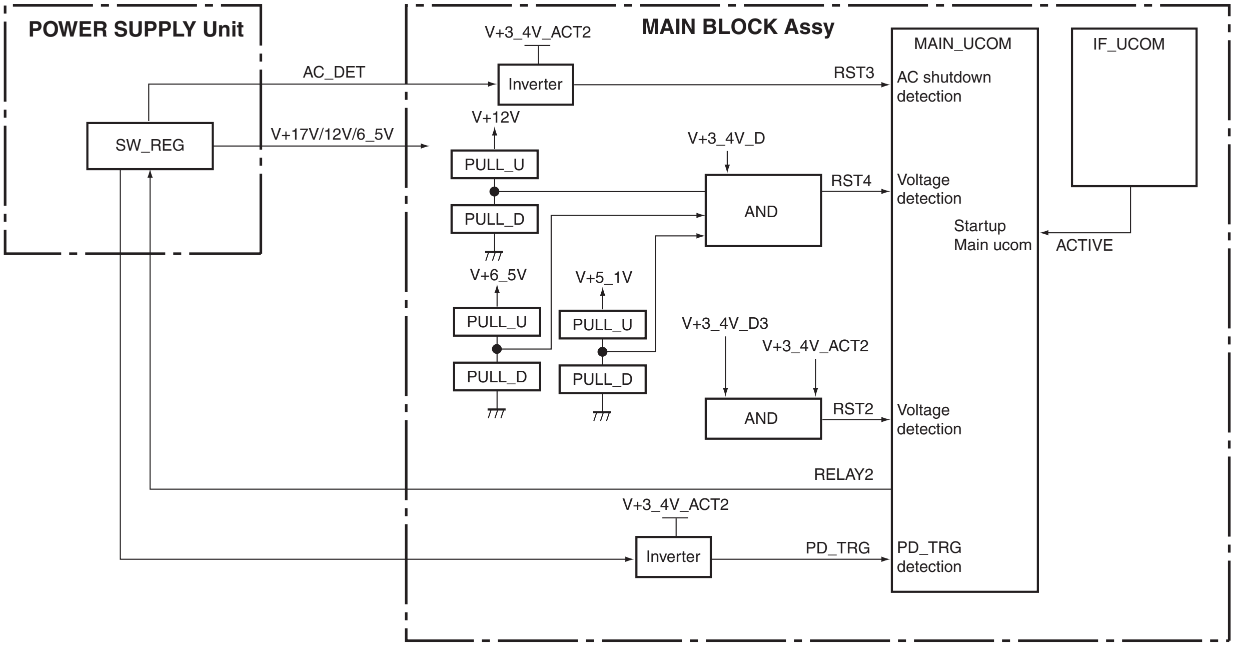
Notes:

- The operating temperature of the fan is different from the ambient temperature, because the sensor temperature is read by the microcomputer.
- The fan may not start rotating until the internal temperature of the unit reaches a certain level, such as immediately after the unit is turned on.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for exhaust FAN decreases, rotation speed of FAN rises.

[2] PROCESSING IN ABNORMALITY

Power supply and DC-DC converter

● Circuit configuration

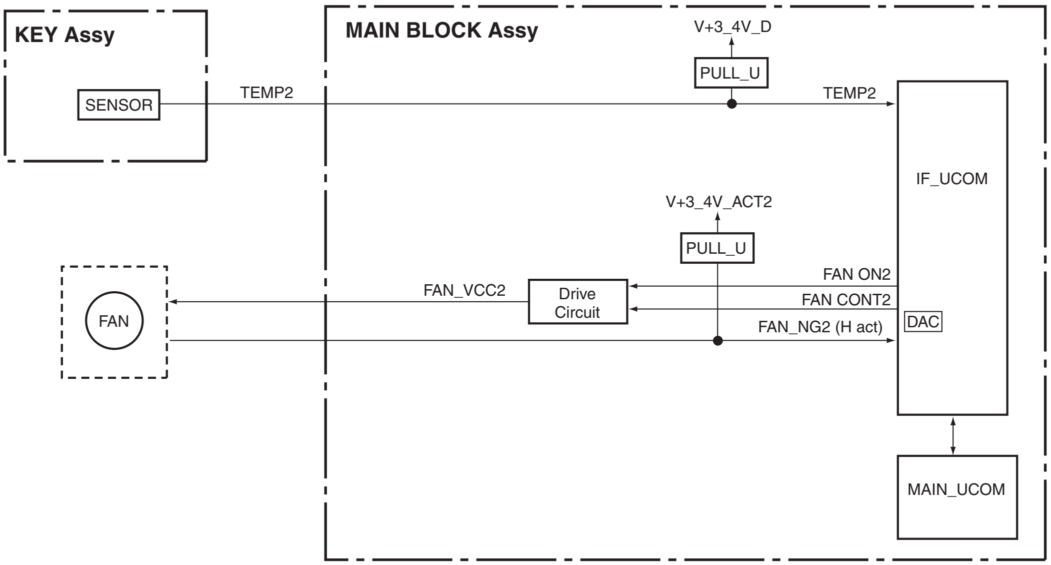

POWER SUPPLY Unit
SW_REG
AC_DET
V+17V/12V/6_5V
MAIN BLOCK Assy
V+3_4V_ACT2
Inverter
V+12V
PULL_U
PULL_D
V+6_5V
PULL_U
PULL_D
V+5_1V
PULL_U
PULL_D
V+3_4V_D
AND
RST3
RST4
V+3_4V_D3
V+3_4V_ACT2
AND
RST2
RELAY2
V+3_4V_ACT2
Inverter
PD_TRG
MAIN_UCOM
AC shutdown detection
Voltage detection
Startup Main ucom
Voltage detection
PD_TRG detection
IF_UCOM
ACTIVE
B
C

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	• Panel screen ON (RST4 = H and PSW1 = H) • While awaiting restoration of RST2 (RST2 = L)	Shutdown occurs immediately Blue LED flashes 13 times
RST3	—	—	Excepting passive standby	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, and monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY2 is ON. or for 2 sec while the unit is ON or in Functional STB.	RELAY2 = ON (High)	Shutdown occurs immediately Blue LED flashes 13 times
PD_TRG	VCC power (MR-PWR)	Shutdown occurs when the signal is continuously "L" for 30msec * 3 times after RELAY2 is ON.	• RELAY2 = ON • Monitor it after 3 sec.	Power-down occurs immediately Red LED flashes once

Fan and temperature sensor

● Circuit configuration

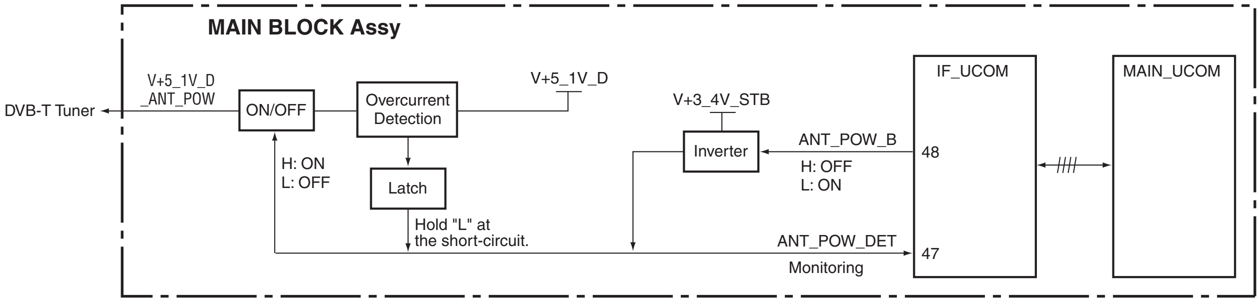

KEY Assy
SENSOR
TEMP2
MAIN BLOCK Assy
V+3_4V_D
PULL_U
TEMP2
IF_UCOM
V+3_4V_ACT2
PULL_U
FAN ON2
FAN CONT2
FAN_NG2 (H act)
DAC
FAN_VCC2
Drive Circuit
FAN
MAIN_UCOM

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
FAN_NG2	FAN	Shutdown occurs when the signal is "H." 1 S ∗ 3 times	RST4 = H and FAN_ON2 = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times
TEMP2	High temperature at MR	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. In the Functional STB: Shutdown occurs immediately Blue LED flashes 11 times

Power supply for DVB-T Antenna for Europe

● Circuit configuration


MAIN BLOCK Assy
DVB-T Tuner
V+5_1V_D
_ANT_POW
ON/OFF
H: ON
L: OFF
Overcurrent Detection
Latch
Hold "L" at the short-circuit.
V+5_1V_D
V+3_4V_STB
Inverter
ANT_POW_B
H: OFF
L: ON
ANT_POW_DET
Monitoring
IF_UCOM
48
47
MAIN_UCOM

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
ANT_POW_DET	DTB antenna short-circuited	Warning message is displayed when the signal is L (100 mS, 3 times)	RST4 = H and ANT_POW_B = L (Monitoring starts 1 sec after the above conditions are established.)	Output of a warning message for 60 sec.

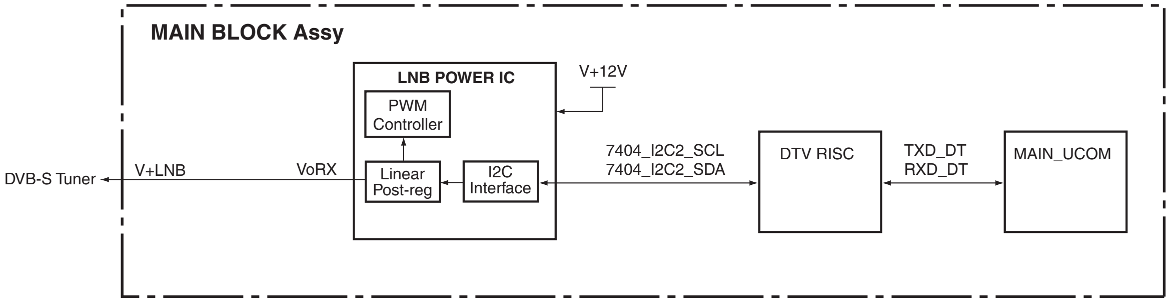
● Conditions of circuit reset

The circuit can be reset by unplugging then plugging the power cord back in (it will not be reset by Standby ON/OFF).

Power supply for DVB-S Antenna for Europe

● Circuit configuration

Note: Specifications for the output of warning-message indication will be added in the future.


MAIN BLOCK Assy
DVB-S Tuner
V+LNB
VoRX
LNB POWER IC
PWM Controller
Linear Post-reg
I2C Interface
V+12V
7404_I2C2_SCL
7404_I2C2_SDA
DTV RISC
TXD_DT
RXD_DT
MAIN_UCOM

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
—	S2 antenna short-circuited	Notification from DTV (at 7404_I2C2, OR of OLF bit and OTF bit of the LNB IC System Register is 1)	RST4: "H" and during reception of satellite broadcast	Output of a warning message for 60 sec. Only while a satellite broadcast program is displayed on the main screen.

● Conditions of circuit reset

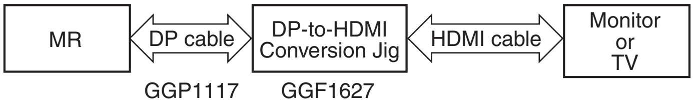
The circuit will be automatically reset after an error, such as short-circuiting of the antenna, is resolved and the unit is restored.

[3] HOW TO OPERATE THE MEDIA RECEIVER SEPARATELY

● Necessary items for operation

- Media Receiver
- DP-to-HDMI conversion jig: GGF1627 (with the AC adaptor)
  AC adaptor INPUT: 100 V to 240 V, 50/60 Hz, 0.3 A
  OUTPUT: DC 6 V, 1.8 A ⊖—●—⊕
- Monitor or TV (with which an image with resolution of 1920 × 1080 p, 60 Hz can be displayed, with HDMI input)
  Note: When checking with DVI monitor, setting change of this jig is required.
- DP cable (GGP1117) and HDMI cable
- G8 or G9 remote control unit (in case of controlling by remote control unit)
- PC and RS-232C straight cable (in case of controlling by PC)
- HDMI -DVI cable (in case of connecting with DVI monitor)

● Connection


MR
DP cable
DP-to-HDMI Conversion Jig
HDMI cable
Monitor or TV
GGP1117
GGF1627

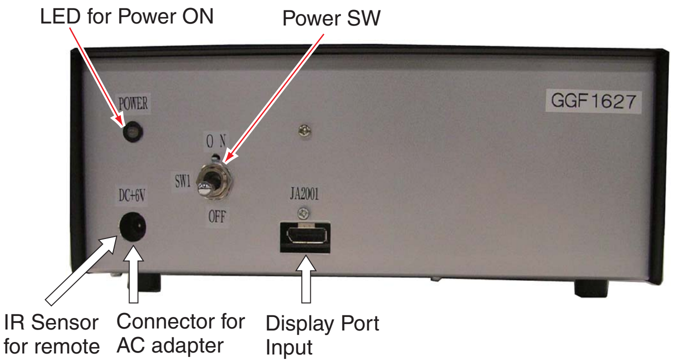

LED for Power ON
Power SW
POWER
GGF1627
ON
SW1
OFF
DC+6V
JA2001
IR Sensor for remote
Connector for AC adapter
Display Port Input

Fig.1 DP - HDMI Conversion tool (Front side)

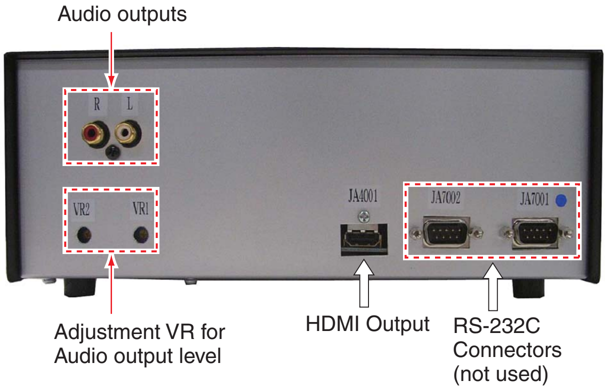
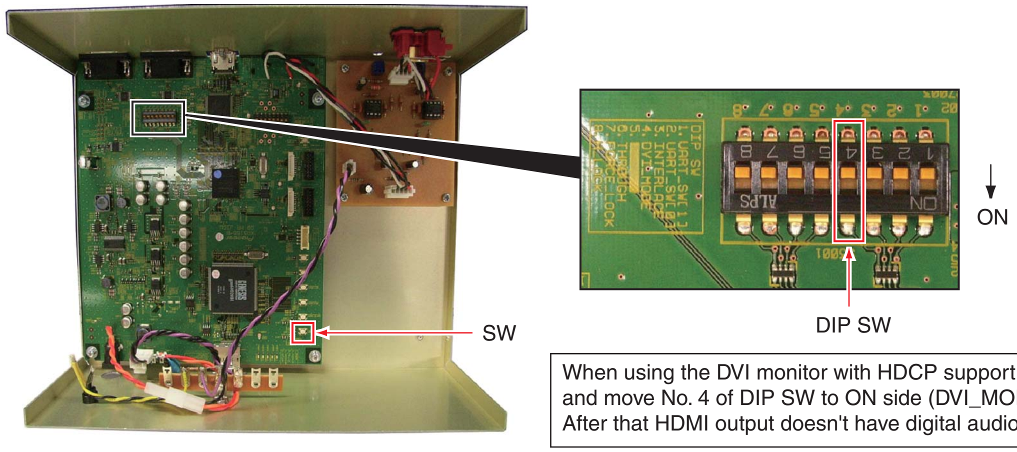

Audio outputs
R
L
VR2
VR1
JA4001
JA7002
JA7001
Adjustment VR for Audio output level
HDMI Output
RS-232C Connectors (not used)

Fig.2 DP - HDMI Conversion tool (Rear side)


SW
DIP SW
ON
DIP SW
ALPS
8
7
6
5
4
3
2
1
ON

When using the DVI monitor with HDCP support, remove a bonnet and move No. 4 of DIP SW to ON side (DVI_MODE).
After that HDMI output doesn't have digital audio signal.

Fig.3 DP - HDMI Conversion tool
DIP SW Setting (output mode setting for HDMI connector)

● Preparation

- Set the MR from System Operation mode to Standalone Operation mode.
  The MR is normally set to System Operation mode. If the MR is turned on in this mode, an error warning is issued (the red and blue LEDs alternately flash), and it cannot be operated properly.

To change to Standalone Operation mode, proceed as follows:

[With an RS-232C command]
1. Turn the MR on. (The red and blue LEDs alternately flash to warn of an error.)
2. In this state, send the MRMS01 command via RS-232C ports.
3. Turn the MR off.

When the MR is turned on next time or after, it will be in Standalone Operation mode.

[With the keys on the MR]
1. Set the MR to Standby mode.
2. Press and hold the INPUT key of the MR pressed for at least 5 seconds.
   (This step is for giving a startup trigger in a case where the MR was in Passive Standby mode.)
3. Within 5 seconds after the INPUT key is released, press and hold the CHANNEL - key of the MR for at least 10 seconds.
4. After the modes are changed, the red LED flashes twice then is lit (the unit enters Normal Standby mode).
5. Turn the unit off.

When the MR is turned on next time or after, it will be in Standalone Operation mode.

● Operation

After the setting in Preparation is completed, turn the units on in the following order then perform analysis:
1. Turn the monitor or TV on. (Set the input mode to HDMI.)
2. Turn the DP-to-HDMI conversion jig on.
3. Turn the MR on.
   If no image is displayed on the monitor or TV after the MR is turned on, press and hold the switch on the DP-to-HDMI conversion jig for about 1 sec.

● How to control the MR

- With the remote control unit:
  The infrared receiver (IR) sensor for remote control unit is placed inside of the jig. Please point the remote towards the AC adaptor connector on the jig.
  Unlike normal products, sensor reception of this tool is not so sensitive due to reduce interference with another Pioneer Plasma TV.
  Please keep the distance between the remote control unit and the sensor less than 15cm.

- With RS-232C commands:
  Connect a PC to the MR via their RS-232C ports and send RS-232C commands from the PC. (Baud rate: 9600 bps)

After analysis is finished

After analysis in Standalone Operation mode is finished, before returning the MR to the customer, be sure to return the unit to System Operation mode, as shown in the procedures below.
If it remains in Standalone Operation mode, when it is connected with the customer's monitor, the monitor will detect a connection error and not operate properly, and no image will be displayed.

To set the MR to System Operation mode, proceed as follows:

[With an RS-232C command]

1. Turn the MR on.
2. Send the MRMS00 command via RS-232C ports.
3. Turn the MR off.
   When the MR is turned on next time or after, it will be in System Operation mode.
4. Connect the MR directly with the monitor and check that they operate properly.

[With the keys on the MR]

1. Set the MR to Standby mode.
2. Press and hold the INPUT key of the MR pressed for at least 5 seconds.
   (This step is for giving a startup trigger in a case where the MR was in Passive Standby mode.)
3. Within 5 seconds after the INPUT key is released, press and hold the CHANNEL + key of the MR for at least 10 seconds.
4. After the modes are changed, the red LED flashes twice then is lit (the unit enters Normal Standby mode).
5. Turn the unit off.
   When the MR is turned on next time or after, it will be in Standalone Operation mode.

Products whose proper operation has been proved when HDMI connection is performed with this MR

Model Number	Manufacturer	Built-in Audio AMP
PDP-5000EX	Pioneer	○ (SP is required)
G8	Pioneer	○ (SP is required except 42 inch)
FP241WJ	BenQ	× (External audio amp and SP is required)
3008WFP	DELL	× (External audio amp and SP is required)
HD2441W	EIZO NANAO	× (External audio amp and SP is required)

Attention point for audio volume

Audio output level is connected with MR volume level. If VR level of a MR is normal (around 10 - 15) and displayed HDMI TV or audio AMP is not so high level, sound level is very low. Please turn up the volume to appropriate level either or both units.
In case of turning up volume of MR to very high level during testing, turn down it to normal level and then turn off the unit. Otherwise when connecting the MR with panel, very loud sound is output from speakers and it might be a danger.

Attention point when using another Pioneer Plasma TV

Please pay attention to interference of IR signal when using Pioneer plasma TV as HDMI monitor.
If remote signal is also received to Pioneer plasma TV when operating MR with this tool and remote, you might confuse of which unit is controlled by the remote.
The following methods are some of suggestions to control only MR with the conversion tool.
Using the remote control unit and the conversion tool (AC adaptor connector) as nearly as possible hiding remote sensor of the plasma TV temporally.

Setting Method to connect with DVI monitor with HDCP support (DVI mode)

1. Open bonnet with power off condition.
2. Refer to Fig. 3, move the DIP SW No. [4] to ON side.

After this setting, DVI mode signal is output from HDMI output connector of HDMI.

Note: 1. Some of DVI monitors might not display output signal from this conversion tool.
2. Output signal does not contain digital audio signal.

5.7 OUTLINE OF RS-232C COMMAND

[1] PREPARED TOOLS

It is necessary to prepare the following one to use 232C command.

- PC
- Application for control
- 232C cable (straight)

∗ The setting of the Com port cannot be communicated if it doesn't do correctly.
(Please follow a set explanation of PC in the Com port)

[2] USING RS-232C COMMANDS

Individual ports are provided for RS-232C and SR+ connectors with this model. Therefore, unlike the case of previous models, which required switching of exclusive operation between these connectors on the Integrator menu, switching is no longer required.

5.8 LIST OF RS-232C COMMANDS

■ RS-232C command list

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
A					
AMT	S00	Audio mute OFF			
	S01	Audio mute ON			
C					
CHN	FWD	Changing tuner preset channel (1 step forward)			
	REV	Changing tuner preset channel (1 step reverse)			
CHM		Clearing data of the hour meter		●	Last memory is performed to the panel side.
CHR		Clearing data of the hour meter of MTB/MR side			Clear the hour meter of screen display of MAIN NG.
CNG		Clearing data of the SD history of MTB/MR side			
D					
DPT		Rewriting the Display Port Tx			
DW*		To subtract * to the adjustment value (* = 0 to 9, subtract 10 with DW0 and set to minimum value with DWF)			
F					
FAN		Factory mode: OFF		●	
FAY		Factory mode: ON			
FST	S35	Set each memory setting of MTB/MR side to the shipment state.		●	
I					
INA	***	Switching the terrestrial analog signal, direct tuning (***: channel number)	MAIN		
		Switching the terrestrial analog signal (Channnel is in the last.)	MAIN		
INC	***	Switching the terrestrial digital signal, direct tuning (***: channel number)	MAIN		
		Switching the terrestrial digital signal (Channnel is in the last.)	MAIN		
IND	***	Switching the satellite digital signal, direct tuning (***: channel number)	MAIN		
		Switching the satellite digital signal (Channnel is in the last.)	MAIN		
INH		Switching the Home Media Gallery / Home Gallery			
INP	S01	Input: INPUT1	MAIN		
	S02	Input: INPUT2	MAIN		
	S03	Input: INPUT3	MAIN		
	S04	Input: INPUT4	MAIN		
	S05	Input: INPUT5	MAIN		
	S06	Input: INPUT6 (PC)	MAIN		
M					
MRM	S00	Setting the mode to normal operation	MAIN	●	
	S01	Setting the mode to standalone operation	MAIN	●	
MST	S00	Display one screen			
	S01	PsideP (Main size: normal)			
	S02	PinP (Right down)			
	S03	PinP (Right up)			
	S04	PinP (Left down)			
	S05	PinP (Left up)			
	S08	SWAP (Exchanging sub-screen)			
O					
OSD	S00	OSD setting: OFF	MAIN		
	S01	OSD setting: ON	MAIN		
P					
POF		Power: OFF	MAIN		
PON		Power: ON	MAIN		
PUC	S00	PURE CINEMA: OFF	MAIN	●	
	S01	PURE CINEMA: Standard	MAIN	●	
	S02	PURE CINEMA: Advance	MAIN	●	
	S03	PURE CINEMA: Smooth	MAIN	●	
Q					
QMT		Acquiring temperature of MTB/MR side and Fan speed			
QNG		Acquiring shutdown information of MTB/MR side			
QS1		Acquiring unit data, such as the software version			
QSE		Acquiring unit data, such as the software version of MTB/MR side (specific destination)			

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
S					
SDF	S00	SRS DEFINITION: OFF			
	S01	SRS DEFINITION: DEFINITION1			
	S02	SRS DEFINITION: DEFINITION2			
	S03	SRS DEFINITION: DEFINITION3			
SML	***	Adjustment of the side mask level	MAIN	●	
SRS	S00	SRS: OFF			
	S01	SRS: SRS1			
	S02	SRS: SRS2			
	S03	SRS: SRS3			
SZM	S00	Setting the screen size to Dot by Dot	MAIN		
	S01	Setting the screen size to 4 :3	MAIN		
	S02	Setting the screen size to FULL or FULL 1080i	MAIN		
	S03	Setting the screen size to ZOOM	MAIN		
	S04	Setting the screen size to CINEMA	MAIN		
	S05	Setting the screen size to WIDE or WIDE1	MAIN		
	S06	Setting the screen size to FULL 14:9	MAIN		
	S07	Setting the screen size to CINEMA 14:9	MAIN		
	S11	Setting the screen size to AUTO	MAIN		
	S12	Setting the screen size to WIDE2	MAIN		
T					
TBS	S00	TRUBASS: OFF			
	S01	TRUBASS: TRUBASS1			
	S02	TRUBASS: TRUBASS2			
	S03	TRUBASS: TRUBASS3			
U					
UP*		To add * to the adjustment value (* = 0 to 9, add 10 with UP0 and set to maximum value with UPF)			
V					
VOL	UP*, DW*, ***	To adjust the volume			Use this command by designating the adjustment value *** (=000 to 060).
Z					
ZME	***	Initializing the video EEPROM data of the MTB/MR side		●	

5.9 DETAILS OF RS-232C COMMANDS

[1] QS1 (Software Version Information of the Microcomputer)

Model information and version information are returned.

Command Format	Effective Operation Modes	Function	Remarks
[QS1]	Every Time	Output of status	Return data: 3 (ECO) + 112 (DATA) + 2 (CS) = 117 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QS1
1	Resolution/Size	1 byte	F
2	Panel Generation	1 byte	9
3	Destination	1 byte	*
4	Grade	1 byte	*
5	Product Form	1 byte	A
6	Boot version of Module microcomputer	3 byte	-01A
7	Program version of Module microcomputer	8 byte	-01A‘’’’
8	Boot version of sequence processor	3 byte	-01Z
9	Program version of sequence processor	8 byte	-01Z‘’’’
10	Panel information	8 byte	G9_50F_2
11	Derivative operation identification	1 byte	*
12	Reserved (panel section)	7 byte	*******
13	, (comma)	1 byte	,
14	MTB generation	1 byte	9
15	MTB destination	1 byte	A
16	MTB grade	1 byte	H
17	MTB product form	1 byte	B
18	Program version of IF microcomputer	8 byte	-01A
19	Boot version of IF microcomputer	4 byte	01A
20	Program version of Main microcomputer	8 byte	-01A
21	Boot version of Main microcomputer	4 byte	01A
22	Common version of ASIC	8 byte	-01A
23	Boot version of ASIC	8 byte	01A
24	PRS version of ASIC	8 byte	-01A
25	PIC version of ASIC	8 byte	-01A
26	Common version of the Digital Tuner	8 byte	-0A
27	Boot version of the Digital Tuner	4 byte	01A
CS	2 Byte	2 byte	4A

11: Derivative Operation Identification	
*	Standard model operation
1	Derivative model operation

14: MTB Generation	
9	G9

15: MTB Destination	
A	North America
C	China
E	Europe
G	General
J	Japan
U	Australia

16: MTB Grade	
H	Elite/One body Europe HD /System Europe HD/One body Australia
T	Regular/One body Europe SD
D	Derivative Model
*	No Grade (Japan/General/China)

17: MTB Product Form	
B	One body model
S	System model

1: Resolution/Size	
F	50-FHD (1920*1080)
G	60-FHD (1920*1080)

2: Panel Generation	
9	G9

3: Destination	
*	Commonness

4: Grade	
*	Commonness
Z	Evaluation

5: Not used	
A	“A” fixed

10: Panel Information (8 Byte)		
1 to 2nd byte	G9	Generation information
4 to 5th byte	50	50 inch
	60	60 inch
6th byte	F	FHD
8th byte	3	50 inch 2nd PLANT (Reserved)
	2	50 inch 2nd PLANT
	1	50 inch 1st PLANT
	‘	Others

‘ = space

[2] QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 32 (DATA) + 2 (CS) = 37 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Check flag for production	1 byte	E
2	Reserved	3 byte	***
3	DTB hardware version	4 byte	0342
4	User setting password	4 byte	1234
5	DP Tx firmware version	16 byte	123456789ABCDEFG
6	DP Tx hardware version	4 byte	ABCD
CS	Check Sum	2 byte	13

[3] QMT (STATUS INFORMATION OF MTB/MR SECTION)

Temperature information on the MTB/MR section is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QMT]	Every time	Output of status	Return data: 3 (ECO) + 8 (DATA) = 11 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QMT
1	A/D value of temperature of MTB/MR section	3 byte	276
2	Reserved (*1)	1 byte	1
3	Reserved	4 byte	****

*1 Although the numerics 0, 1, and 2 can be input, those input values are invalid.

[4] QNG (SHUTDOWN INFORMATION OF MTB SECTION)

The command QNG is for acquiring the data from the 8 latest shutdown (SD) logs of the MTB section.

Command Format	Effective Operation Modes	Function	Remarks
[QNG]	Every time	To acquire data on the shutdown (NG) logs of MTB side	Return data: 3 (ECO) + 96 (DATA) + 2 (CS) = 101 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QNG
1	Latest SD data	1 byte	1
2	Latest SD subcategory data	1 byte	0
3	Data from the MTB hour meter for the latest SD	7 byte	0752013
4	Reserved	3 byte	000 fixed
5	Second latest SD data	1 byte	5
6	Second latest SD subcategory data	1 byte	1
7	Data from the MTB hour meter for the second latest SD	7 byte	0495204
8	Reserved	3 byte	000 fixed
9	Third latest SD data	1 byte	A
10	Third latest SD subcategory data	1 byte	2
11	Data from the MTB hour meter for the third latest SD	7 byte	0365814
12	Reserved	3 byte	000 fixed
13	Fourth latest SD data	1 byte	5
14	Fourth latest SD subcategory data	1 byte	0
15	Data from the MTB hour meter for the fourth latest SD	7 byte	0256612
16	Reserved	3 byte	000 fixed
17	Fifth latest SD data	1 byte	7
18	Fifth latest SD subcategory data	1 byte	2
19	Data from the MTB hour meter for the fifth latest SD	7 byte	0105628
20	Reserved	3 byte	000 fixed
21	Sixth latest SD data	1 byte	B
22	Sixth latest SD subcategory data	1 byte	0
23	Data from the MTB hour meter for the sixth latest SD	7 byte	0003009
24	Reserved	3 byte	000 fixed
25	Seventh latest SD data	1 byte	C
26	Seventh latest SD subcategory data	1 byte	1
27	Data from the MTB hour meter for the seventh latest SD	7 byte	00002A9
28	Reserved	3 byte	000 fixed
29	Eighth latest SD data	1 byte	C
30	Eighth latest SD subcategory data	1 byte	4
31	Data from the MTB hour meter for the eighth latest SD	7 byte	0000012
32	Reserved	3 byte	000 fixed
CS	2 Byte	2 Byte	7D

< SD Information No. >

Frequency *	Shutdown Factor	Remarks (Operation)
1	Failure of Power Supply of VCC	Immediately Shutdown
5	Abnormality in MSP	Go to No. 5 Subcategory Information
6	Failure of communication with Module microcomputer	Immediately Shutdown
7	Failure in 3-wire serial communication of Main microcomputer	Go to No. 7 Subcategory Information
8	Failure in IIC communication of Main microcomputer	Go to No. 8 Subcategory Information
9	Failure in Communication of Main microcomputer	Immediately Shutdown
10(A)	Abnormality in FAN	Go to No. 10 Subcategory Information
11(B)	Abnormality in high temperature	Immediately Shutdown
12(C)	Failure in Digital Tuner	Go to No. 12 Subcategory Information
13(D)	Failure in Power Supply at MTB section	Go to No. 13 Subcategory Information
15(F)	Failure in Main EEPROM	Immediately Shutdown

∗: Indicates the frequency of Blue LED flashing when the shutdown is occurred.

< No. 5 Subcategory Information on "Shutdown signal from D-Amp./short-circuit of speaker terminal" >

Value	Shutdown Factor	Remarks (Operation)
3	MSPMAP	Immediately Shutdown

< No. 7 Subcategory Information on "Failure in 3-wire serial communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Communication error of IF microcomputer	Immediately Shutdown
2	Communication error of ARIA	Immediately Shutdown

< No. 8 Subcategory Information on "Failure in IIC communication of Main microcomputer" >

Value	Shutdown Factor	Remarks (Operation)
1	Tuner 1	Immediately Shutdown
2	MSP/MAP	Immediately Shutdown
3	AV-Switch	Immediately Shutdown
4	RGB-Switch	Immediately Shutdown
5	Main VDEC	Immediately Shutdown
6	VDEC-SDRAM	Immediately Shutdown
7	AD/PLL	Immediately Shutdown
8	HDMI	Immediately Shutdown
9	DisplayPortTx	Immediately Shutdown
B	US-MAP	Immediately Shutdown
C	GCR	Immediately Shutdown
D	COFDM	Immediately Shutdown

< No. 10 Subcategory Information on "Abnormally in FAN" >

Value	Shutdown Factor	Remarks (Operation)
1	FAN 1	Immediately Shutdown
2	FAN 2	Immediately Shutdown

< No. 12 Subcategory Information on "Failure in Digital Tuner" >

Value	Shutdown Factor	Remarks (Operation)
1	Starting error of the digital tuner	Communication stop
2	Communication error with the digital tuner	
3	DTB device error	
4	Abnormmally in BCM7038	
5	Fugue	
6	Audio Chip	
7	Tuner 1/Tuner 1 or 2	
8	Card I/F IC	
9	VBI Slicer	
B	Flash	
C	EEPROM	
D	EEPROM	
F	DTV Antenna	
G	Home Gallery	
I	Application	
J	DEMOD(US)/COFDM(EU)	
K	Tuner 2	
L	S2DEMOD	
M	LNB	
O	DTB ERROR	
P	Abnormally in DTB (S2) antenna	

< No. 13 Subcategory Information on "Failure in Power supply at MTB section" >

Value	Shutdown Factor	Remarks (Operation)
1	RST 2	Immediately Shutdown
2	RST 4	Immediately Shutdown

[5] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

The commands FAY/FAN are for prohibiting/permitting panel/MTB-adjustment commands.

Command Format	Operation		Remarks
	Effective Operation Modes	Control	
[FAY]	Normal operation mode while the power is on	Adjustment command is valid.	For details, refer to the section "6.1 [3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE".
[FAN]	During FAY	Adjustment command is invalid.	

6. SERVICE FACTORY MODE

6.1 DETAILS OF THE SERVICE FACTORY MENU

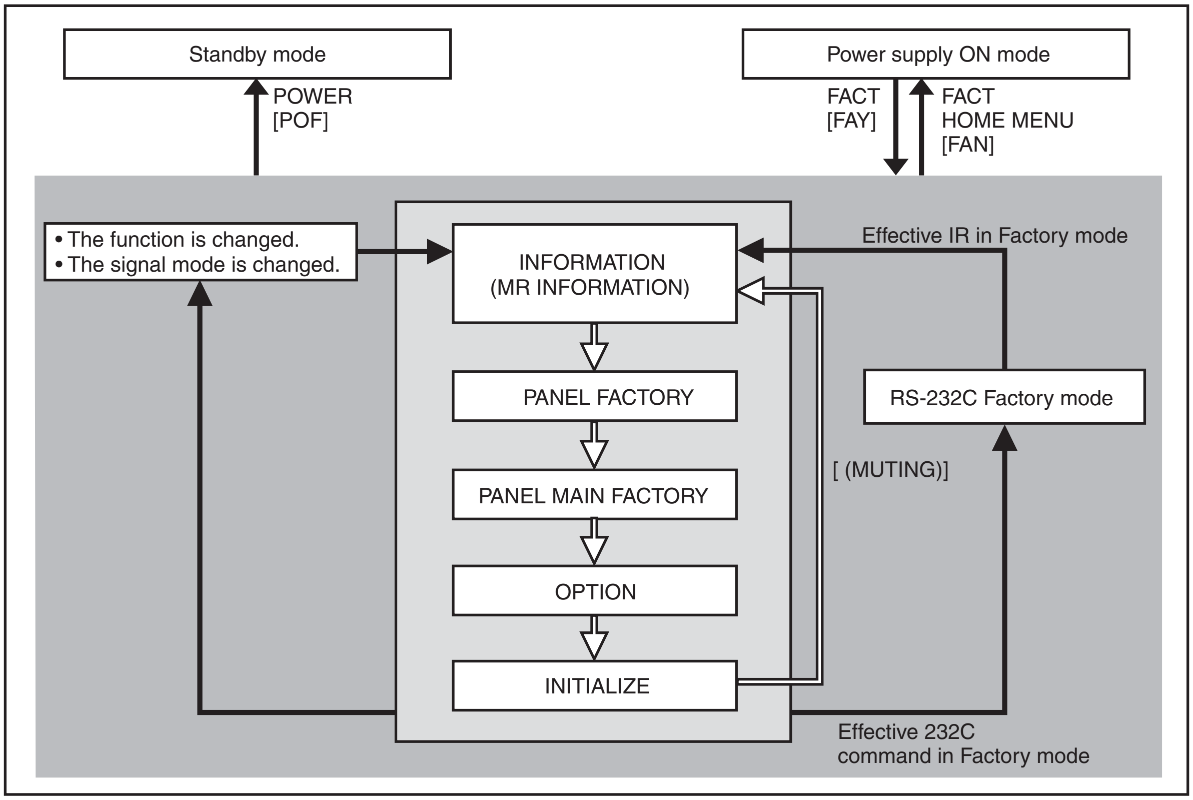
Operations during Service Factory mode are described here.

Before entering Factory mode of the PDP, make sure that the "HD AV Converter" setting on the PDP menu is set to "Disable." If it is set to "Enable," change it to "Disable" then enter Factory mode.

To confirm the "HD AV Converter" setting on the PDP menu, proceed as follows:
Select HOME MENU, Option, then HD AV Converter in HDMI Control Setting.

Note: If "HD AV Converter" is set to "Enable," the video/audio signals will not be displayed/output even if external equipment is connected via input connectors other than INPUT 4 of the PDP.

[1] SERVICE FACTORY MODE TRANSITION CHART



Standby mode
Power supply ON mode
POWER
[POF]
FACT
[FAY]
FACT
HOME MENU
[FAN]
• The function is changed.
• The signal mode is changed.
INFORMATION
(MR INFORMATION)
Effective IR in Factory mode
PANEL FACTORY
RS-232C Factory mode
PANEL MAIN FACTORY
[(MUTING)]
OPTION
INITIALIZE
Effective 232C
command in Factory mode

[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE

■ How to enter Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : Press [FACTORY] key.

By issuing RS-232C commands)
- During normal Standby mode : Issue [PON] then [FAY].
- During normal operation mode : Issue [FAY].

■ How to exit Service Factory Mode

By using a PDP service remote control)
- PDP service remote control : press [FACTORY] key.
- Supplied remote control unit : press [HOME MENU] key.

By issuing RS-232C commands)
- Issue [FAN].

■ How to enter Service Factory Mode by Using the supplied Remote Control Unit

- From this model, can not enter the Service Factory Mode by operating the supplied remote control unit keys.

[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE

■ Fuctions whose setting are set to OFF

The settings for the following functions are set to OFF when Service Factory mode is entered (including when the “FAY” command is received) :

Function	Remarks
2-Screen Operation	Input function set on the main side is selected.
FREEZE	
Auto size, Side Mask	It is not performed during Factory mode.
ORBITER, Mask control	Central value operation (ORBITER)
Sleep Timer	Cancel the operation.
Room light sensor	Turn off the detecting operation (Setting data will be retained.)
Blue LED dimmer	Turn off the operation (Setting data will be retained.)
Setting of Parental Control	When this is turned off, the block of the screen is released.
Power Control	Turn off the operation (However, the setting maintains it.)
Image Position	Central value operation

Note: Enter the factory after cancelling ACI because the ACI operation setting OFF and not done.

■ User data

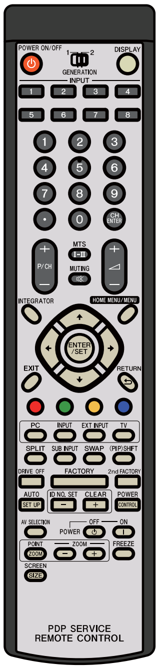
User data will be treated as follows :

- User data on picture-quality and audio-quality adjustments are not reflected, and factory-preset data are output (user data will be retained in memory). When the unit enters Service Factory mode, the current audio-quality adjustment data will be still be retained in memory.
- User-setting data will be applied to the various settings (items on the menus), signal formats, and the items that are associated with path change (HDMI settings, etc.).
- Data on screen (i.e., screen position; meaning clock dividers, and not including data on screen size).
Are reset to the default values (data stored in memory will be retained).
Screen size will be retained.

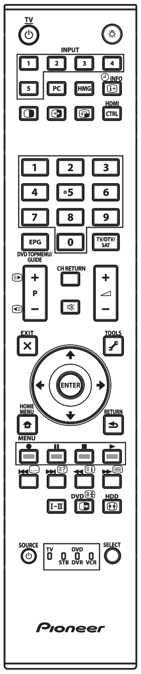
[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 5)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.


POWER ON/OFF
GENERATION
DISPLAY
INPUT
1
2
3
4
5
6
7
8
CH ENTER
MTS
P/CH
MUTING
INTEGRATOR
HOME MENU/MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
SET UP
ID NO. SET
CLEAR
POWER
CONTROL
AV SELECTION
OFF
ON
POWER
POINT
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

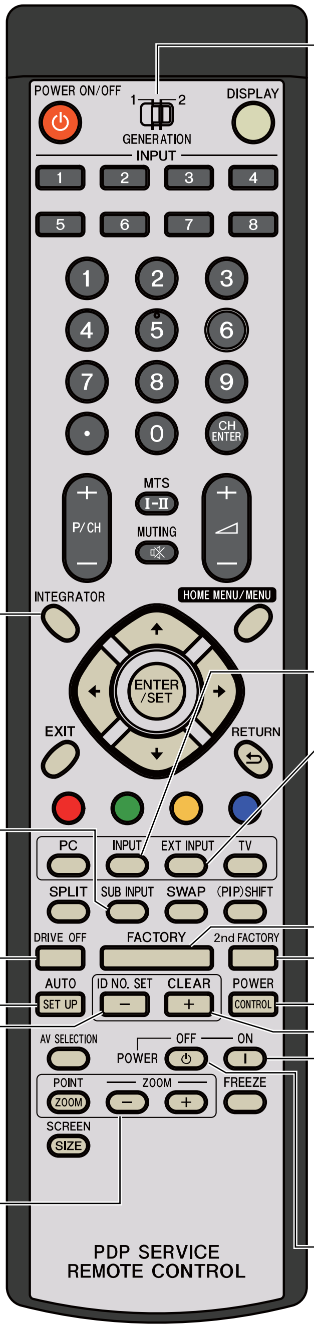
PDP service
remote control


TV
INPUT
PC
HMG
INFO
HDMI
CTRL
EPG
TV/DTV/ SAT
DVD TOPMENU/ GUIDE
CH RETURN
P
EXIT
TOOLS
ENTER
HOME MENU
RETURN
MENU
DVD
HDD
SOURCE
TV
DVD
STB
DVR
VCR
SELECT
Pioneer

Supplied
remote control

[5] PDP SERVICE REMOTE CONTROL

- The keys labeled with the same names on the service remote control unit have the same functions as those of the supplied remote control unit. (See "2.3 PANEL FACILITIES.")
- For the keys not provided on the supplied remote control unit, see the explanations below:


POWER ON/OFF
1
2
GENERATION
DISPLAY
INPUT
1
2
3
4
5
6
7
8
1
2
3
4
5
6
7
8
9
•
0
CH ENTER
MTS
I-II
MUTING
P/CH
INTEGRATOR
HOME MENU/MENU
ENTER /SET
EXIT
RETURN
PC
INPUT
EXT INPUT
TV
SPLIT
SUB INPUT
SWAP
(PIP)SHIFT
DRIVE OFF
FACTORY
2nd FACTORY
AUTO
SET UP
ID NO. SET
CLEAR
POWER
CONTROL
AV SELECTION
OFF
ON
POWER
POINT
ZOOM
ZOOM
FREEZE
SCREEN
SIZE
PDP SERVICE
REMOTE CONTROL

GENERATION switch for remote control codes
This switch selects the generation of remote control codes to be transmitted:
1: The old-generation codes are transmitted.
2: The new-generation codes are transmitted.
With this generation plasma display, set the switch to 2.

INTEGRATOR
Press this key to enter Integrator mode.

INPUT
Press this key to cyclically change the input source.

EXT INPUT
Press this key to cyclically change only the external input source.

SUB INPUT
Not used with this model.

DRIVE OFF
Press this key to turn off the panel drive. For details on how to cancel this command, see the explanation for the DRV command.

FACTORY
Press this key to enter Factory mode.

2nd FACTORY
Not used with this model.

AUTO SETUP
Use this key for automatic setup, such as the display position setting when an analog PC signal is input.

ID NO. SET
Not used with this model.

POWER CONTROL
Not used with this model.

CLEAR
Not used with this model.

POWER ON
Press this key to turn on the unit.
This key cannot turn the unit off.

POWER OFF
Press this key to turn off the unit.
This key cannot turn the unit on.

POINT ZOOM
Not used with this model.

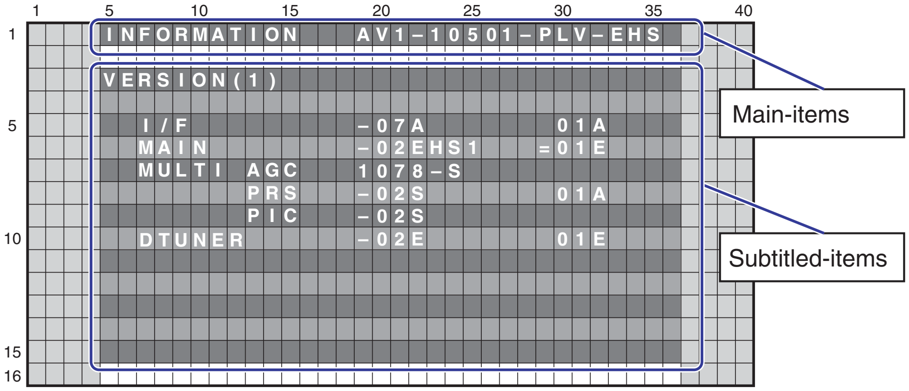
ZOOM +/-
Not used with this model.

[6] FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
6.2 [1] INFORMATION				
	[1-1] VERSION (1)			
	[1-2] VERSION (2)			
	[1-3] VERSION (3)			
	[1-4] MAIN NG	CLEAR <=>	NO <=> YES	
	[1-5] TEMPERATURE			
	[1-6] HOUR METER	CLEAR <=>	NO <=> YES	
	[1-7] HDMI SIGNAL INFO 1			
	[1-8] HDMI SIGNAL INFO 2			
	[1-9] VDEC SIGNAL INFO 1			
	[1-10] VDEC SIGNAL INFO 2			
6.2 [2] PANEL FACTORY (+) (*2)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)			
	[2-6] PANEL-2 ADJ (+)			
	[2-7] PANEL FUNCTION (+)			
	[2-8] ETC (+)			
	[2-9] RASTER MASK SETUP (+)			
	[2-10] PATTERN MASK SETUP (+)			
	[2-11] COMBI MASK SETUP (+)			
6.2 [3] PANEL MAIN FACTORY (+) (*2)				
	[3-1] PM NG INFO			
	[3-2] PM STATE INFO			
	[3-3] DP_RX INFO			
	[3-4] PM_SETUP (+)			
6.2 [4] OPTION				
	[4-1] CH PRESET <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[4-2] Digital AFT <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[4-3] SYNC DET (+)			for the technical analysis
	[4-4] CTI (+)			for the technical analysis
6.2 [5] INITIALIZE				
	[5-1] SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	[5-2] FINAL SETUP	DATA RESET <=>	NO <=> YES	
	[5-3] DTB SERVICE MODE	MODE SHIFT <=>	NO <=> YES	for the technical analysis (*1)
	[5-4] Wide XGA AUTO <=>		DISABLE <=> ENABLE	for the technical analysis
	[5-5] AUTO ADJUST. <=>	AUTO ADJUST. <=>	NO <=> YES	

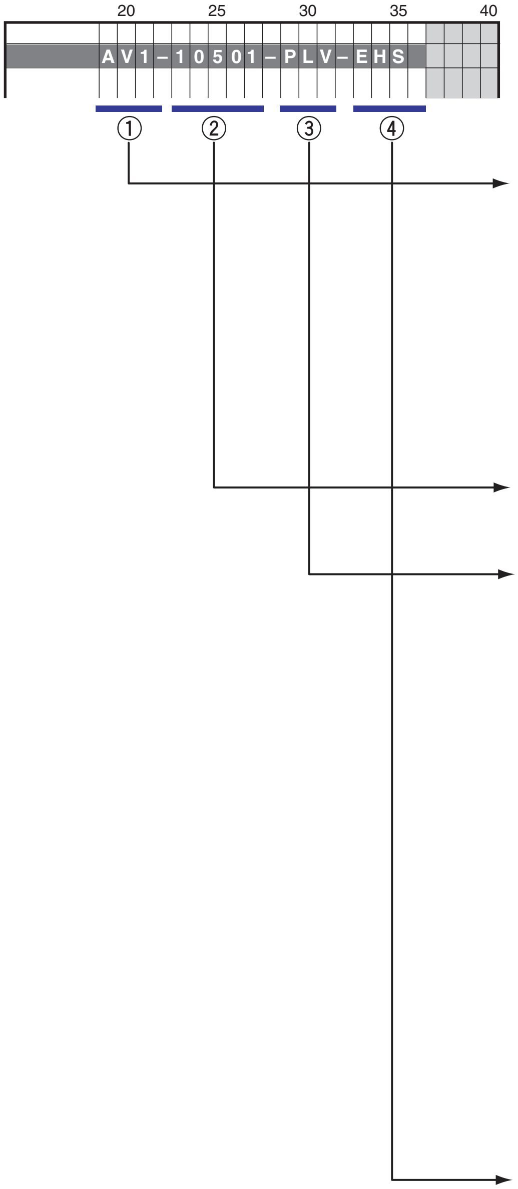
(*1): Exit the Service Factory Menu and enter the Digital Tuner Service menu.
(*2): For details on the setting items, refer to the Service manual of the PLASMA DISPLAY (KRP-600P, KRP-500P).

[7] INDICATIONS IN SERVICE FACTORY MODE


1
5
10
15
20
25
30
35
40
1
5
10
15
16
Main-items
Subtitled-items

```
INFORMATION         AV1-10501-PLV-EHS

VERSION(1)

  I/F               -07A          01A
  MAIN              -02EHS1      =01E
  MULTI  AGC        1078-S
         PRS        -02S          01A
         PIC        -02S
  DTUNER            -02E          01E
```

Main-item indications


20
25
30
35
40
AV1-10501-PLV-EHS
①
②
③
④

① Input function

Input Functions	OSD
AV 1 to 5	AV 1 to 5
Terrestrial Wave (Analog)	AIR
Terrestrial Wave (Digital)	ARD
Satellite didital broadcasting	SAT
Cable (Digital)	CBD
Home Media Gallery	HMG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
KRP-500P/WYSIXK5	EHS
KRP-600P/WYSIXK5	

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal
3rd and 4th characters : Refresh rate of the input signal
5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	●	–	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	–	
4	CINEMA	●	–	
5	WIDE	●	–	
6	FULL 14:9	●	–	
7	CINEMA 14:9	●	–	
9	WIDE1	●	–	
A	WIDE2	●	–	

●: supported, –: unsupported

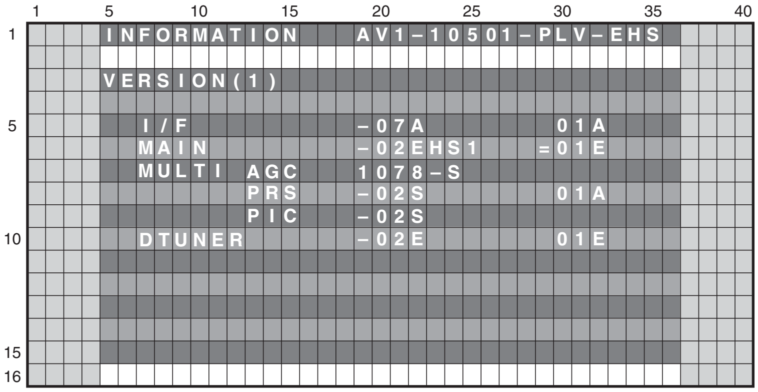
6.2 DETAILS OF THE FACTORY MENU

[1] INFORMATION

■ Operation items

No.	Function	Content	RS-232C Command
[1-1]	VERSION (1)	The Flash memory versions for each device are displayed.	QS1
[1-2]	VERSION (2)	The Flash memory versions for each device are displayed.	QSE
[1-3]	VERSION (3)	The Flash memory versions for each device are displayed.	QSB
[1-4]	MAIN NG	The Shutdown NG information and Event Times in the MTB section are displayed.	QNG
[1-5]	TEMPERATURE	The present temperature and the FAN rotating status are displayed.	–
[1-6]	HOUR METER	The accumulation power ON count of the panel is displayed.	–
[1-7]	HDMI SIGNAL INFO 1	The status registers of HDMI receiver are displayed with hexadecimal.	–
[1-8]	HDMI SIGNAL INFO 2		
[1-9]	VDEC SIGNAL INFO 1	Display the signal information input to VDEC.	–
[1-10]	VDEC SIGNAL INFO 2		

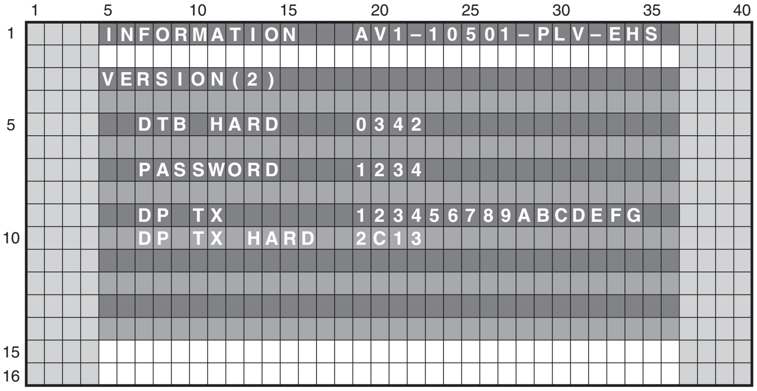
[1-1] VERSION (1)



```
    INFORMATION   AV1-10501-PLV-EHS

    VERSION(1)

      I/F         -07A         01A
      MAIN        -02EHS1    =01E
      MULTI AGC   1078-S
            PRS   -02S         01A
            PIC   -02S
      DTUNER      -02E         01E
```

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02EHS1	=01E
MULTI AGC	AGC data of Multi processor	1078-S	
MULTI PRS	Program of Multi processor	-02S	01A
MULTI PIC	Picture quality data of Multi processor	-02S	
DTUNER	Software program of the Digital tuner	-02E	01E

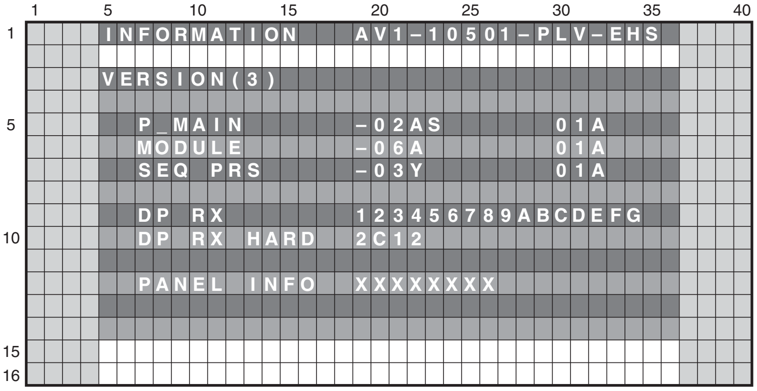
[1-2] VERSION (2)



```
INFORMATION   AV1-10501-PLV-EHS

VERSION(2)

  DTB HARD    0342

  PASSWORD    1234

  DP TX       123456789ABCDEFG
  DP TX HARD  2C13
```

Display Item	Meaning	Display Example
DTB HARD	DTB Hardware Version	0342
PASSWORD	User setting password	1234
DP TX	DP TX Firmware Version	123456789ABCDEFG
DP TX HARD	DP TX Hardware Version	2C13

[1-3] VERSION (3)



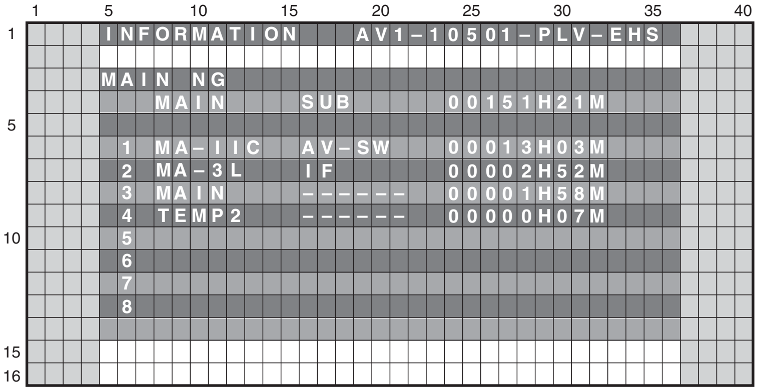
```
INFORMATION   AV1-10501-PLV-EHS

VERSION(3)

  P_MAIN      -02AS      01A
  MODULE      -06A       01A
  SEQ PRS     -03Y       01A

  DP RX       123456789ABCDEFG
  DP RX HARD  2C12

  PANEL INFO  XXXXXXXX
```

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
P_MAIN	Panel Main microcomputer	-02AS	01A
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of the sequence processor	-03Y	01A

Display Item	Meaning	Display Example
DP RX	DP RX Firmware Version	123456789ABCDEFG
DP RX HARD	DP RX Hardware Version	2C12

Display Item	Meaning
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel.

[1-4] MAIN NG



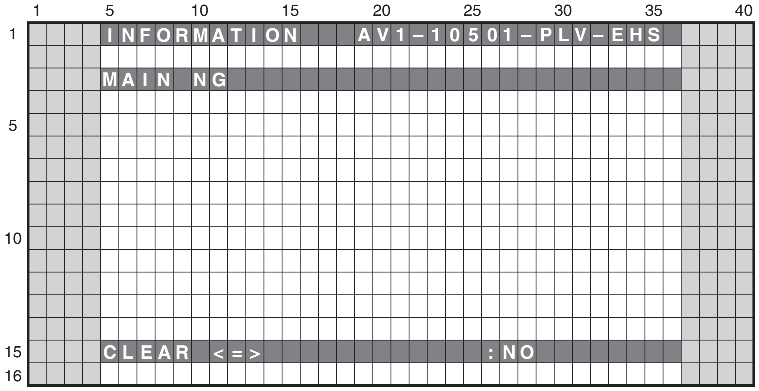
```
INFORMATION     AV1-10501-PLV-EHS

MAIN  NG
   MAIN       SUB         00151H21M

 1 MA-IIC     AV-SW       00013H03M
 2 MA-3L      IF          00002H52M
 3 MAIN       ------      00001H58M
 4 TEMP2      ------      00000H07M
 5
 6
 7
 8
```

Shutdown NG information

Error Display: MAIN	Error Display: SUB	Cause of Shutdown
MR-PWR	----	Abnormally in VCC power
AUDIO	MSPMAP	Short-circuit of the speaker terminal or failure signal of audio amplifier (MSP)
MA-3L		3-wire Serial Communication error of Main microcomputer.
	IF	Communication error of IF microcomputer
	MULTI	Main communication error of Multi Processor
MA-IIC		IIC Communication error of Main microcomputer
	FE1	Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	Main VDEC
	SDRAM	VDEC - SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DP-TX	DisplayPort Tx
MAIN	----	Communication error of Main microcomputer
FAN		FAN abnormal
	FAN1	FAN1 abnormal stop
	FAN2	FAN2 abnormal stop
TEMP2	----	Abnormally high temperature
DTUNER		Failure in Digital Tuner
	PS/RST	DTB Starting error
	RETRY	Communication error with DTB
	DEVICE	DTB device error
	DE-FE	DTB device error (Tuner 1)
	D-ANT	Abnormally in DTB antenna
	DTVAPP	DTB device error (Application)
	DEMOD	DTB device error (DEMOD)
	DE-FES	DTB device error (Tuner S2)
	DEMONS	DTB device error (S2DEMOD)
	DE-LNB	DTB device error (LNB)
	DTVERR	DTB error
	S-ANT	Abnormally in DTB (S2) antenna
RST-MA		Abnormally in MTB power
	M-DCDC	Abnormally in ASIC power (DC-DC)
	RELAY	Power decrease of RELAY power

• Clear the MAIN NG history

To shift to the MAIN NG history clear screen, while the MAIN NG screen is displayed, press the ENTER/SET key.



INFORMATION AV1–10501–PLV–EHS

MAIN NG

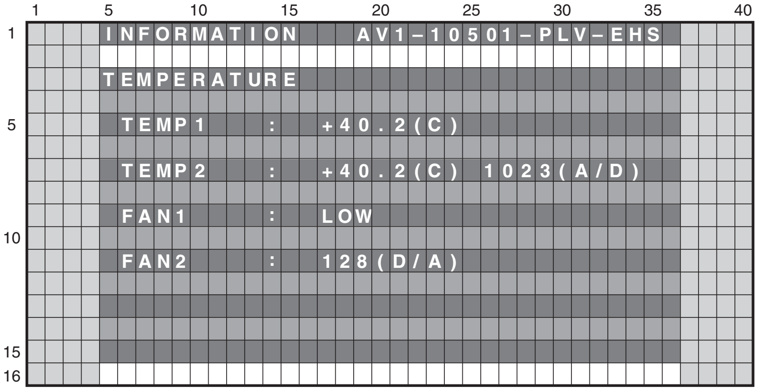
CLEAR <=> :NO

Operation:

- Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the NG log data that are managed in MTB then return the screen to the next higher layer.

[1-5] TEMPERATURE

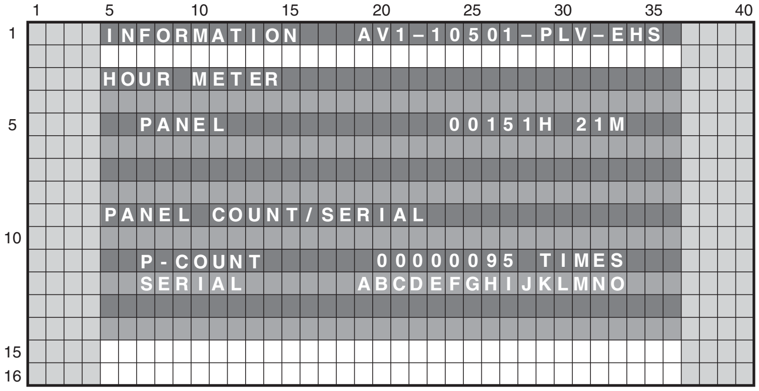
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.



```
    INFORMATION   AV1-10501-PLV-EHS

    TEMPERATURE

     TEMP1   :  +40.2(C)

     TEMP2   :  +40.2(C) 1023(A/D)

     FAN1    :  LOW

     FAN2    :  128(D/A)
```

Display Item	Meaning
TEMP1	The temperature of the sensor on the panel side is displayed by the Centigrade (C).
TEMP2	The temperature conversion display is done with 10 bit the A/D input value of IF microcomputer. It is displayed by both the Centigrade (C) and 8 bit A/D value. Note: When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.
FAN1	Although STOP, LOW, or HIGH may be displayed, they are meaningless. Ignore those displays.
FAN2	The value of the rotation state of FAN is displayed. During a rotation of FAN, 8bit D/A value output from IF microcomputer is displayed. It is displayed with OFF during a stop.

[1-6] HOUR METER

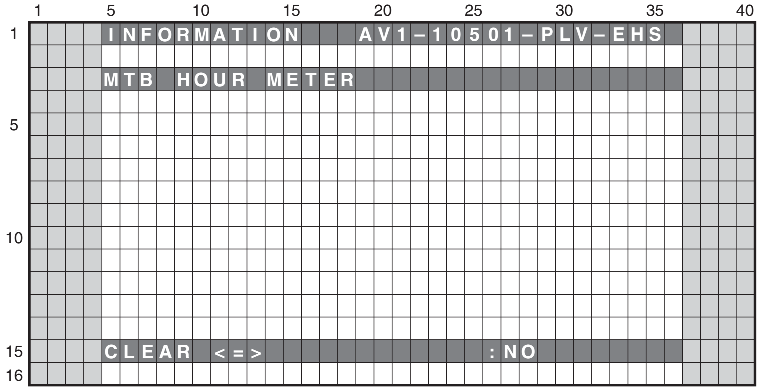


```
INFORMATION     AV1-10501-PLV-EHS

HOUR METER

  PANEL                   00151H 21M



PANEL COUNT/SERIAL

  P-COUNT             00000095 TIMES
  SERIAL             ABCDEFGHIJKLMNO
```

Display Item	Meaning	Display Example
PANEL	HOUR METER of the panel	00151H 21M
P-COUNT	Accumulation power ON count of the panel	00000095 TIMES
SERIAL	Serial number of the Display (panel)	ABCDEFGHIJKLMNO

- **MTB HOUR METER**

In HOUR METER screen on Factory Menu, press the [ENTER/SET] key, and then it moves to the screen to clear MTB HOUR METER. (MTB HOUR METER is cleared only.)

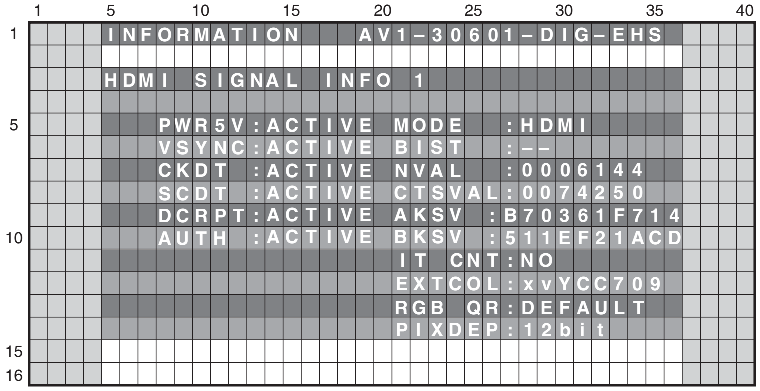


```
INFORMATION     AV1-10501-PLV-EHS

MTB HOUR METER











CLEAR <=>              :NO
```

Operation:

- Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the HOUR METER (HOUR METER while the MAIN NG screen is displaed) data that are managed in MTB then return the screen to the next higher layer.

[1-7] HDMI SIGNAL INFO 1

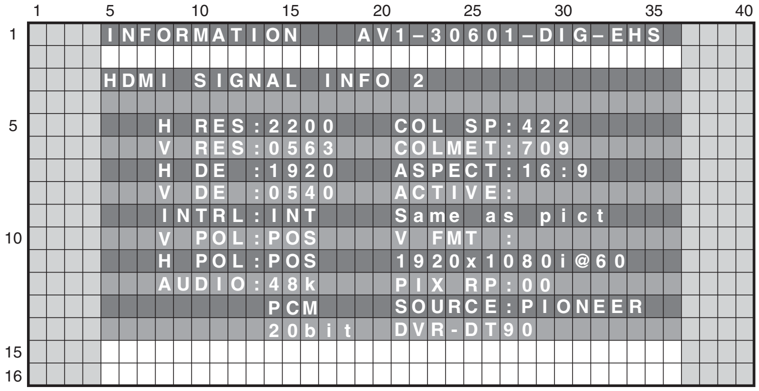


```
INFORMATION   AV1-30601-DIG-EHS

HDMI SIGNAL INFO 1

   PWR5V:ACTIVE MODE  :HDMI
   VSYNC:ACTIVE BIST  :--
   CKDT :ACTIVE NVAL  :0006144
   SCDT :ACTIVE CTSVAL:0074250
   DCRPT:ACTIVE AKSV :B70361F714
   AUTH :ACTIVE BKSV :511EF21ACD
                IT CNT:NO
                EXTCOL:xvYCC709
                RGB QR:DEFAULT
                PIXDEP:12bit
```

Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTH	HDCP authentication status
MODE	HDMI mode status
BIST	HDCP Key status (Always display it with "--".)
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension colorimetry (AVI info)
RGB QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

[1-8] HDMI SIGNAL INFO 2



```
INFORMATION    AV1–30601–DIG–EHS

HDMI SIGNAL INFO 2

   H RES:2200     COL SP:422
   V RES:0563     COLMET:709
   H DE :1920     ASPECT:16:9
   V DE :0540     ACTIVE:
   INTRL:INT      Same as pict
   V POL:POS      V FMT :
   H POL:POS      1920x1080i@60
   AUDIO:48k      PIX RP:00
         PCM      SOURCE:PIONEER
         20bit    DVR-DT90
```

Displays input signal status of HDMI terminal

Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Colorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.

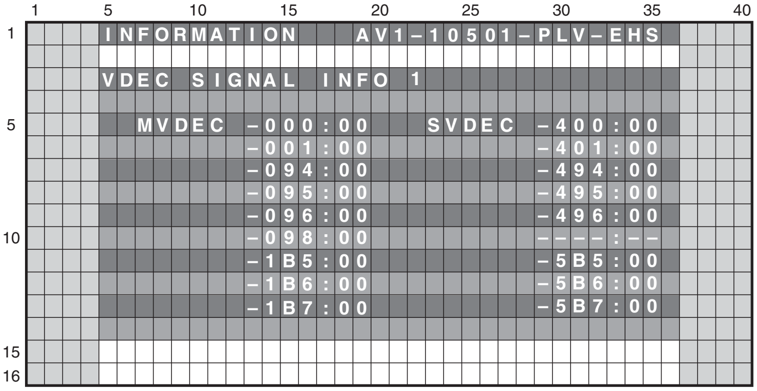
*2: If may not match to the state of emission devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution

Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24
576i (625i)@50	864	312 or 313	720	288	720x576i@50
576p (625p)@50	864	625	720	576	720x576p@50
1080i (1125i)@50	2640	562 or 563	1920	540	1920x1080i@50
720p (750p)@50	1980	750	1280	720	1280x720p@50
1080p (1125p)@50	2640	1125	1920	1080	1920x1080p@50

[1-9] VDEC SIGNAL INFO 1

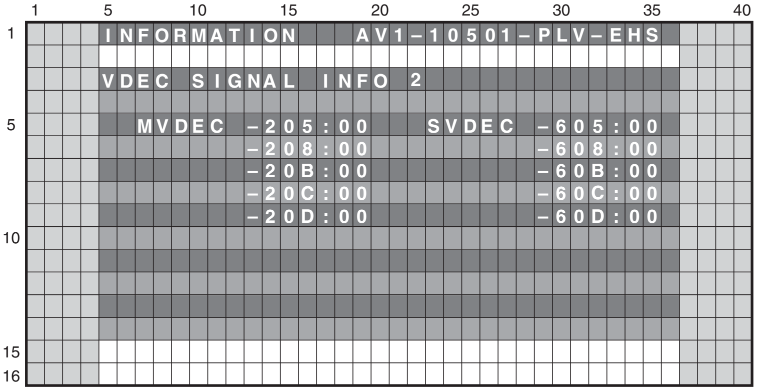


```
INFORMATION    AV1–10501–PLV–EHS

VDEC SIGNAL  INFO 1

  MVDEC  –000:00     SVDEC  –400:00
         –001:00            –401:00
         –094:00            –494:00
         –095:00            –495:00
         –096:00            –496:00
         –098:00            –––:––
         –1B5:00            –5B5:00
         –1B6:00            –5B6:00
         –1B7:00            –5B7:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

[1-10] VDEC SIGNAL INFO 2



```
INFORMATION    AV1–10501–PLV–EHS

VDEC SIGNAL  INFO 2

  MVDEC  –205:00     SVDEC  –605:00
         –208:00            –608:00
         –20B:00            –60B:00
         –20C:00            –60C:00
         –20D:00            –60D:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

[2] PANEL FACTORY (+)

■ Operation Items

No.	Function	Content	RS-232C
[2-1]	PANEL INFORMATION	———	———
[2-2]	PANEL WORKS	———	———
[2-3]	POWER DOWN	———	———
[2-4]	SHUT DOWN	———	———
[2-5]	PANEL-1 ADJ (+)	———	———
[2-6]	PANEL-2 ADJ (+)	———	———
[2-7]	PANEL FUNCTION (+)	———	———
[2-8]	ETC. (+)	———	———
[2-9]	RASTER MASK SETUP (+)	———	———
[2-10]	PATTERN MASK SETUP (+)	———	———
[2-11]	COMBI MASK SETUP (+)	———	———

Note: For details on the setting items, refer to the Service manual of the PLASMA DISPLAY (KRP-600P, KRP-500P).

[3] PANEL MAIN FACTORY (+)

■ Operation Items

No.	Function	Content	RS-232C
[3-1]	PM NG INFO	———	———
[3-2]	PM STATE INFO	———	———
[3-3]	DP_RX INFO	———	———
[3-4]	PM_SETUP (+)	———	———

Note: For details on the setting items, refer to the Service manual of the PLASMA DISPLAY (KRP-600P, KRP-500P).

[4] OPTION

Operation item

No.	Function	Content	RS-232C
[4-1]	CH PRESET <=>	Set the channel map for production line	SCP
[4-2]	Digital AFT <=>	Set AFT of the Satellite digital broadcasting	AFT
[4-3]	SYNC DET (+)	Set the synchronized signal detection of VDEC	———
[4-4]	CTI (+)	Set the synchronized signal detection of VDEC	———

[4-1] CH PRESET <=>

Exclusively used for production line.

[4-2] Digital AFT <=>

Exclusively used for production line.

[4-3] SYNC DET (+)

Exclusively used for technical analysis (details omitted).

[4-4] CTI (+)

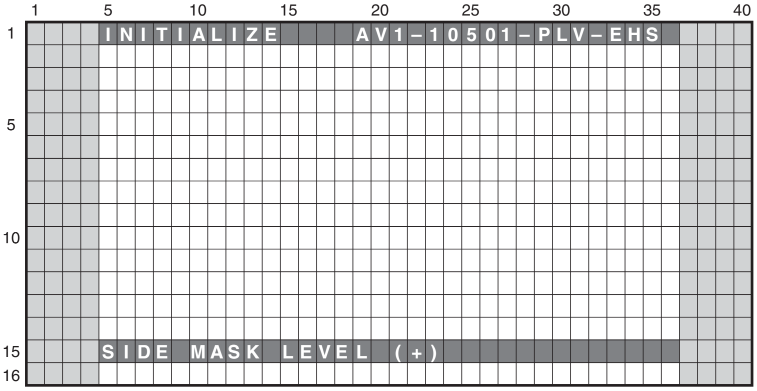
Exclusively used for technical analysis (details omitted).

[5] INITIALIZE

Operation item

No.	Function	Content	RS-232C
[5-1]	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
[5-2]	FINAL SETUP	Initialize flash memorys on virgin product status	FST
[5-3]	DTB SERVICE MODE	Enter the Digital Tuner Service Menu	---
[5-4]	Wide XGA AUTO <=>	Exclusively used for technical analsyis.	---
[5-5]	AUTO ADJUST. <=>	Perform the auto-adjustment setting process	---

[5-1] SIDE MASK LEVEL (+)



INITIALIZE AV1–10501–PLV–EHS

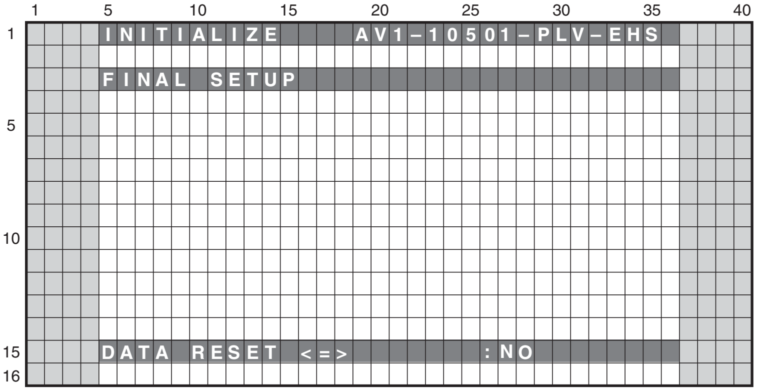
SIDE MASK LEVEL (+)

To configure sidemask level (To adjust the values, input signal is required).

Display Item	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255, Initial value: 115)	SML

Note: In this mode (SIDE MASK LEVEL), adjustment value cannot changed with the VOLUME +/- keys.

[5-2] FINAL SETUP



INITIALIZE AV1–10501–PLV–EHS

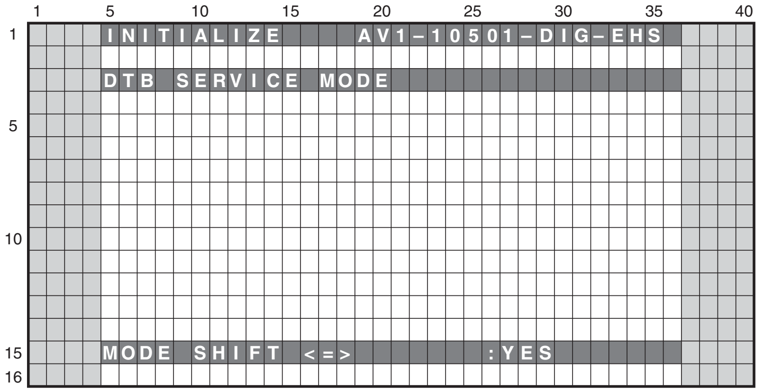
FINAL SETUP

DATA RESET <=> :NO

- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes.

Be sure to disconnect and connect the AC cable after FINAL SETUP.
When replacing the MAIN BLOCK Assy, the FINAL SETUP is required.

[5-3] DTB SERVICE MODE



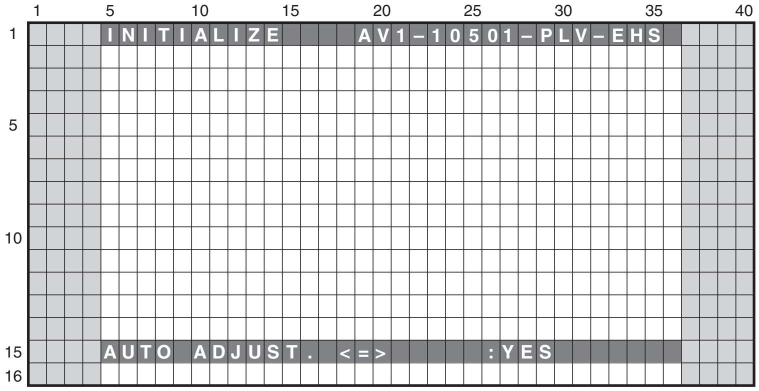
```
INITIALIZE     AV1−10501−DIG−EHS

DTB SERVICE MODE

MODE SHIFT <=>         :YES
```

If the [ENTER/SET] key is kept on pressing for 5 second when the status of this menu is <YES>, shift to the DTB SERVICE mode screen. (Release from the SERVICE FACTORY mode.)

[5-4] WIDE XGA AUTO <=>

Exclusively used for technical analysis (details omitted).

[5-5] AUTO ADJUST. <=>



```
INITIALIZE     AV1−10501−PLV−EHS

AUTO ADJUST. <=>       :YES
```

- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the auto-adjustment action executes.

- **Be sure to power off with the remote control unit or disconnect and connect the AC cable after the auto-adjustment is completed.**
- **When some ICs on the MAIN BLOCK Assy are replaced individually, auto-adjustment is required. For details on IC numbers, see the list "■ Parts whose replacement is difficult" in "8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED."**
- **When this unit is used with the HD AV Converter, the interlocking setting with the HD AV Converter is released. Reset it after the auto adjustment is completed.**

6.3 DIGITAL TUNER SERVICE MENU

The Digital Tuner Service Menu is provided for collecting data for technological examination when the Digital Tuner has any problem in the market. This menu is introduced here just for reference.

[1] REMOTE CONTROL CODE IN DIGITAL TUNER SERVICE MENU

The following remote control cord is valid in the Digital Tuner Service Menu.

Remote Control Keys	Basic Functions	Remarks
⬇ (DOWN)	Selecting the menu items and shifting the pages.	Shifting downward to the next item. Moving to the next lower page.
⬆ (UP)		Shifting upward to the next item. Moving to the next upper page.
⬅ (LEFT)	Selecting the setting value.	Modifying the setting of selected items.
➡ (RIGHT)		
ENTER/SET	Shifting the menu layers	Shifting to the next menu screen.
RETURN		Shifting to the previous menu screen.
Numeric Keys	Numeric input	Input the numerical value.
POWER OFF	Power OFF	Turning the power off.
STANDBY/ON		
FACTORY	Factory ON/OFF	Release the Menu, then enter the Service Factory menu.
EXIT	MENU exit	After you exit the menu, the channel that was selected on the menu will be displayed.
MUTING	Muting	
HOME MENU	HOME MENU ON/OFF	

[2] HIERARCHICAL TABLE OF DIGITAL TUNER SERVICE MENU

Item	Large Item	Middle Item	Remarks
6.3 [3] Digital Tuner Service Menu			
	6.3 [4] HMG Service Menu		
			Exclusively used for technical analysis: HomeMediaGallery-related information indication
	6.3 [5] Digital		
		Bandwidth	Exclusively used for technical analysis
		Frequency	Exclusively used for technical analysis
		Program Number	Exclusively used for technical analysis
		Audio PID	Exclusively used for technical analysis
		DTV Tuning Status	Exclusively used for technical analysis: Terrestrial digital broadcasting-related information indication
	6.3 [6] Satellite		
		Modulation	Exclusively used for technical analysis
		Frequency	Exclusively used for technical analysis
		Symbol Rate	Exclusively used for technical analysis
		LNB POWER	Exclusively used for technical analysis
		LNB BAND	Exclusively used for technical analysis
		Program Number	Exclusively used for technical analysis
		Audio PID	Exclusively used for technical analysis
		SAT Tuning Status	Exclusively used for technical analysis: Satellite digital broadcasting-related information indication
	6.3 [7] Software Version		
			Exclusively used for technical analysis: The software revision information that consists of it in DTB software

[3] DIGITAL TUNER SERVICE MENU SCREEN

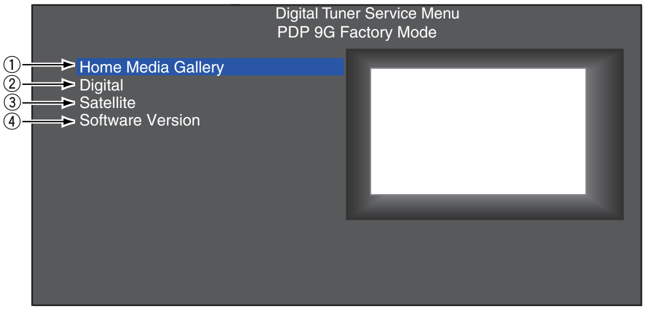
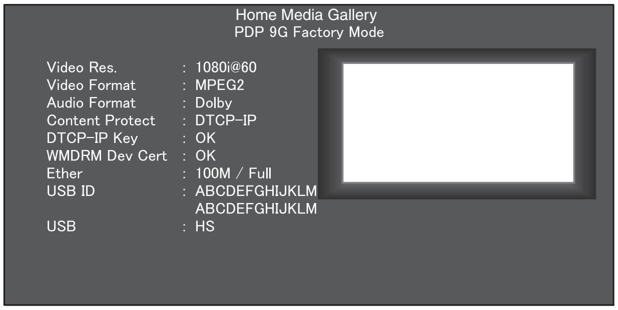

Digital Tuner Service Menu
PDP 9G Factory Mode
①
②
③
④
Home Media Gallery
Digital
Satellite
Software Version

Fig.1 Digital Tuner Service Menu screen

Display a large item list of Digital Tuner Service Menu.
Select each item, and shift to each setting / information display screen.

① Home Media Gallary-related information indication
② Terrestrial digital-related setting / information indication
③ Satellite digital-related setting / information indication
④ Digital Tuner-related detailed software version indication

[4] HOME MEDIA GALLERY SCREEN

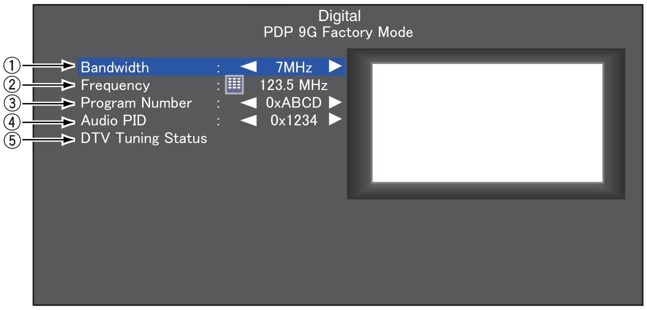

Home Media Gallery
PDP 9G Factory Mode

Video Res. : 1080i@60
Video Format : MPEG2
Audio Format : Dolby
Content Protect : DTCP-IP
DTCP-IP Key : OK
WMDRM Dev Cert : OK
Ether : 100M / Full
USB ID : ABCDEFGHIJKLM
ABCDEFGHIJKLM
USB : HS

Fig.2 Home Media Gallery screen

Display the Home Media Gallary-related information.

[5] DIGITAL SCREEN


Digital
PDP 9G Factory Mode
①
②
③
④
⑤

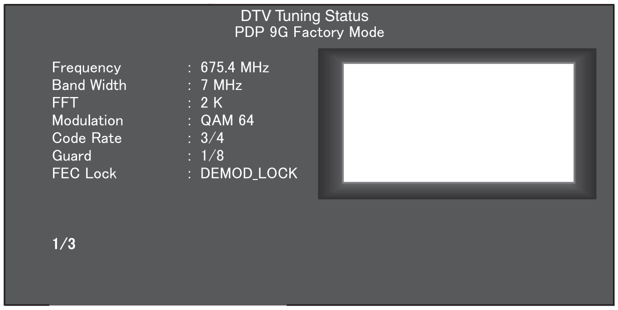
Bandwidth : ◀ 7MHz ▶
Frequency : 123.5 MHz
Program Number : ◀ 0xABCD ▶
Audio PID : ◀ 0x1234 ▶
DTV Tuning Status

Fig.3 Digital screen

Display the Digital broadcasting-related setting / information indication.(except the satellite digital)

① The Bandwidth for receiving a digital broadcast can be selected. (7 MHz/8 MHz)
② The frequency can be set (up to 1 digit after the decimal point).
③ Program Number in the same stream: Service ID can be selected.
④ Audio PID in the same stream: Audio PID can be selected.
⑤ The DTV Tuning Status is displayed.

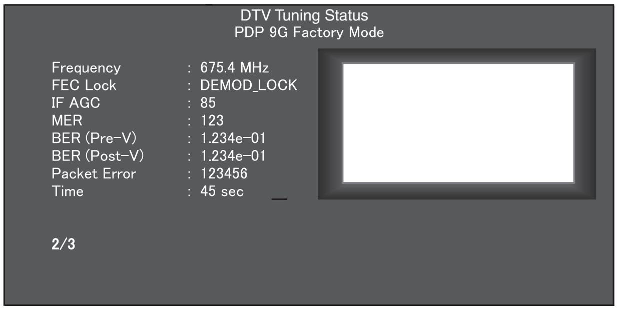
The data displayed on the DTV Tuning Status screen are as shown below:
The instructions for servicing using this screen is shown in "How to confirm the DTV Tuning Status on the Digital Tuner Service Menu" of section 5.2 [4]. Therefore, this screen is introduced here just for reference.


DTV Tuning Status
PDP 9G Factory Mode

Frequency : 675.4 MHz
Band Width : 7 MHz
FFT : 2 K
Modulation : QAM 64
Code Rate : 3/4
Guard : 1/8
FEC Lock : DEMOD_LOCK

1/3

Fig.4 DTV Tuning Status (1/3) screen

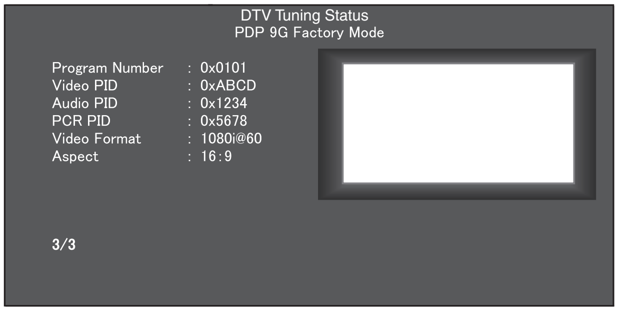


DTV Tuning Status
PDP 9G Factory Mode

Frequency : 675.4 MHz
FEC Lock : DEMOD_LOCK
IF AGC : 85
MER : 123
BER (Pre-V) : 1.234e-01
BER (Post-V) : 1.234e-01
Packet Error : 123456
Time : 45 sec

2/3

Fig.5 DTV Tuning Status screen (2/3) screen



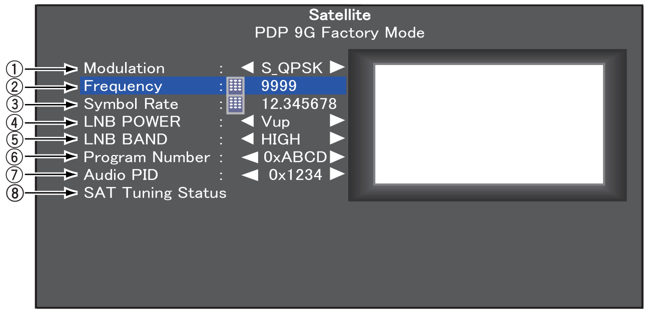
DTV Tuning Status
PDP 9G Factory Mode

Program Number : 0x0101
Video PID : 0xABCD
Audio PID : 0x1234
PCR PID : 0x5678
Video Format : 1080i@60
Aspect : 16:9

3/3

Fig.6 DTV Tuning Status screen (3/3) screen

[6] SATELLITE SCREEN



Satellite
PDP 9G Factory Mode

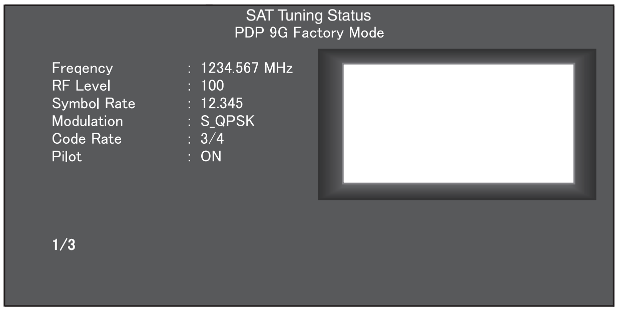
① Modulation : ◀ S_QPSK ▶
② Frequency : 9999
③ Symbol Rate : 12.345678
④ LNB POWER : ◀ Vup ▶
⑤ LNB BAND : ◀ HIGH ▶
⑥ Program Number : ◀ 0xABCD ▶
⑦ Audio PID : ◀ 0x1234 ▶
⑧ SAT Tuning Status

Fig.7 Satellite screen

Display the Satellite Digital broadcasting-related setting / information indication.

① The modulation method can be selected. (S_QPSK/S2_QPSK/S2_8PSK)
② The frequency can be set (0001 to 9999).
③ The symbol Rate can be set (1.000000 to 99.999999)
④ The LNB power voltage can be selected. (OFF/V/H/Vup/Hup)
⑤ The LNB Bandwidth can be selected. (Low/High)
⑥ Program Number in the same stream: Service ID can be selected.
⑦ Audio PID in the same stream: Audio PID can be selected.
⑧ The Tuning Status of Satellite Digital is displayed.

The data displayed on the SAT Tuning Status screen are as shown below:
The instructions for servicing using this screen will be provided as service information.
Therefore, this screen is introduced here just for reference.

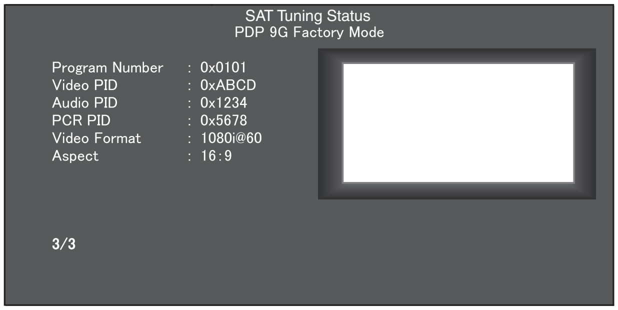


SAT Tuning Status
PDP 9G Factory Mode

Freqency : 1234.567 MHz
RF Level : 100
Symbol Rate : 12.345
Modulation : S_QPSK
Code Rate : 3/4
Pilot : ON

1/3

Fig.8 SAT Tunig Status (1/3) screen

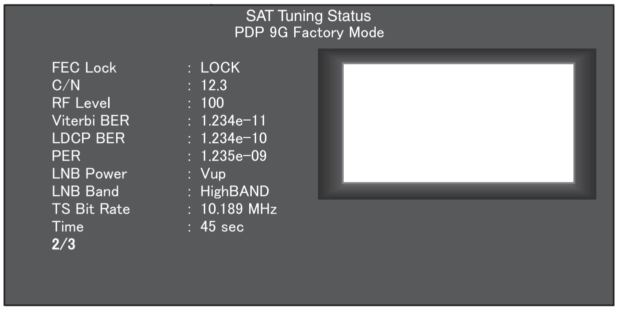


SAT Tuning Status
PDP 9G Factory Mode

Program Number : 0x0101
Video PID : 0xABCD
Audio PID : 0x1234
PCR PID : 0x5678
Video Format : 1080i@60
Aspect : 16:9

3/3

Fig.10 SAT Tunig Status (3/3) screen



SAT Tuning Status
PDP 9G Factory Mode

FEC Lock : LOCK
C/N : 12.3
RF Level : 100
Viterbi BER : 1.234e-11
LDCP BER : 1.234e-10
PER : 1.235e-09
LNB Power : Vup
LNB Band : HighBAND
TS Bit Rate : 10.189 MHz
Time : 45 sec
2/3

Fig.9 SAT Tunig Status (2/3) screen

[7] SOFTWARE VERSION SCREEN

The details are not described here, as this is provided for technical examination.

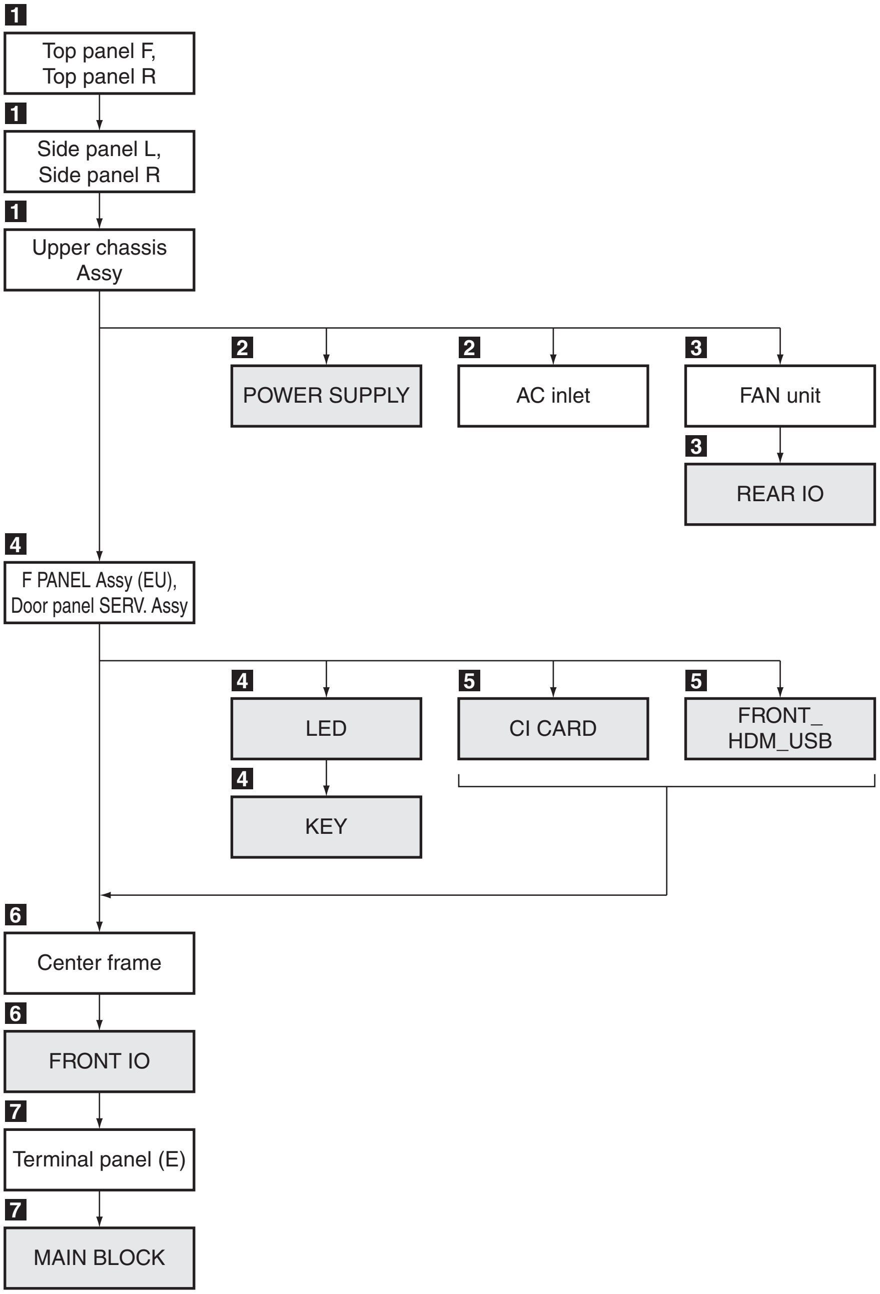
7. DISASSEMBLY

7.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:


1
Top panel F, Top panel R
1
Side panel L, Side panel R
1
Upper chassis Assy
2
POWER SUPPLY
2
AC inlet
3
FAN unit
3
REAR IO
4
F PANEL Assy (EU), Door panel SERV. Assy
4
LED
4
KEY
5
CI CARD
5
FRONT_ HDM_USB
6
Center frame
6
FRONT IO
7
Terminal panel (E)
7
MAIN BLOCK

7.2 DISASSEMBLY

Disassembly

1 Exterior Section

The high-gloss resin parts of the exterior of this product are easily scratched.
During disassembly and reassembly of this product, be careful not to scratch the exterior.

Attach the protect film (GGP1121) to the inside surface of the door.
(For details on the place at which the protect film is to be attached, see “1.2 NOTES SPECIFIC TO THIS PRODUCT.”)

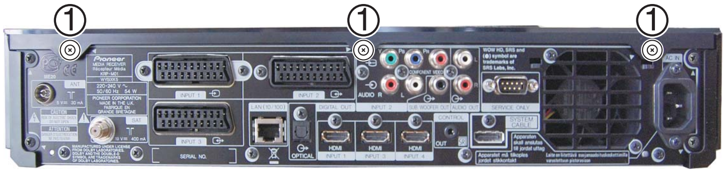
● Top panel F and R

① Remove the three collar and three screws.
(ABA1383)

• Reference

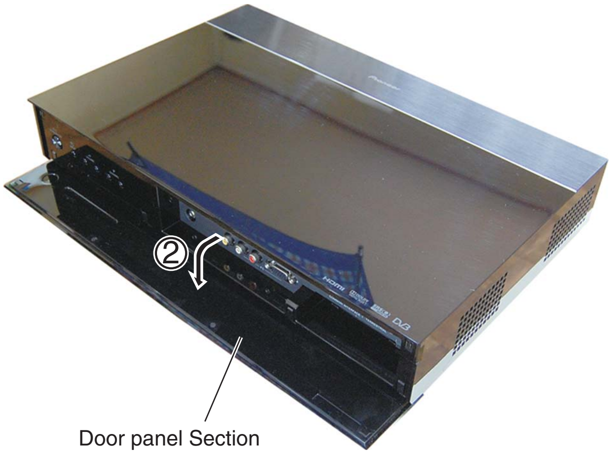
Collar

ABA1383



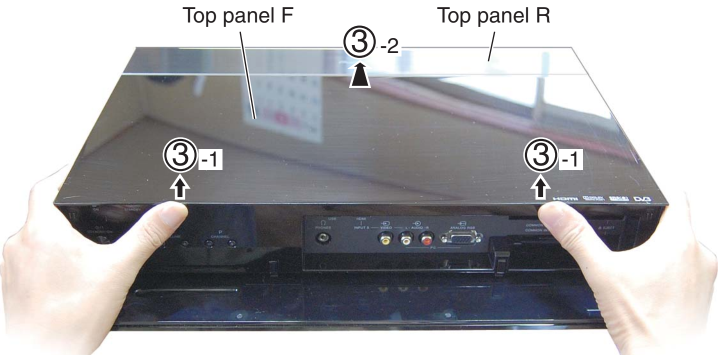
• Rear view

② Open the door panel Section.

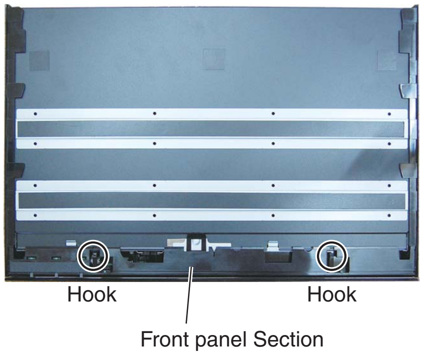


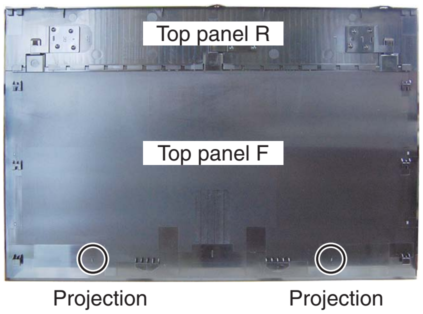
Door panel Section

③ While pushing up at two places of the top panel using your thumbs, as shown in the photo below, to unhook the top panel, remove it by sliding it toward the rear panel.


Top panel F
Top panel R
③-2
③-1
③-1

● **Positions of the hooks**


Hook
Hook
Front panel Section

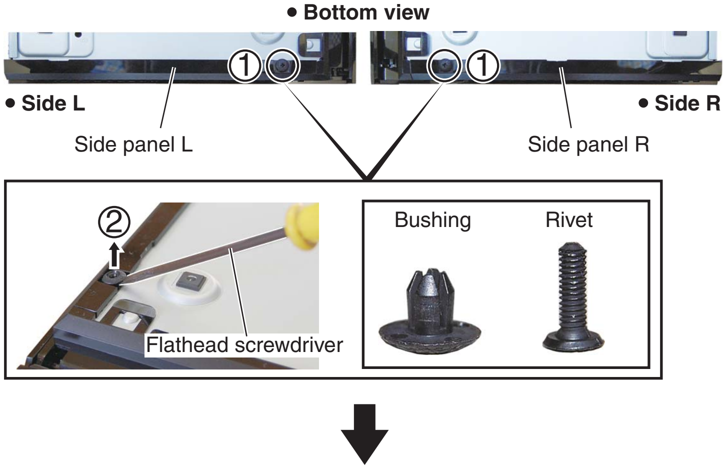

Top panel R
Top panel F
Projection
Projection

● **Bottom view**

● **Side panel L and R**

① Remove the two rivets.

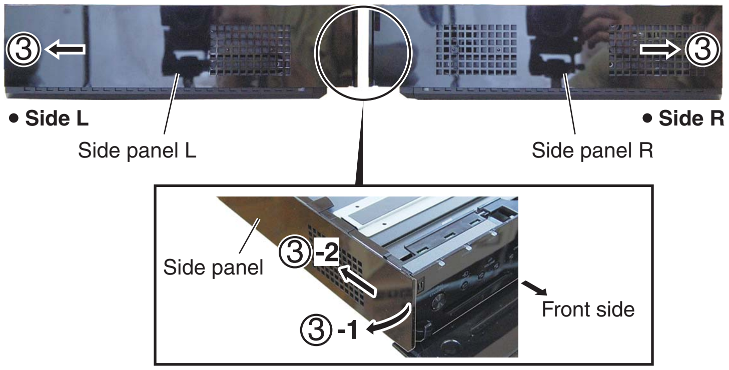
② Remove the two bushings, using a flathead screwdriver.


● Bottom view
①
①
● Side L
● Side R
Side panel L
Side panel R
②
Flathead screwdriver
Bushing
Rivet

③ Remove the side panels L and R.

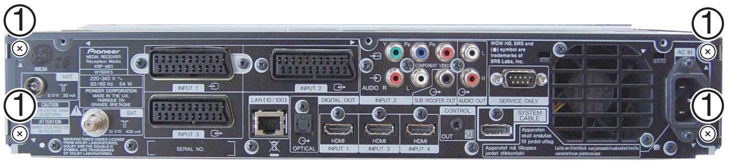
③-1 ③-2

Slide the side panel rearward, by stretching the front edge of the side panel outward, and remove it.

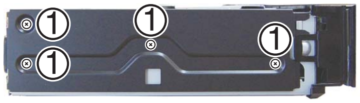

③
③
● Side L
● Side R
Side panel L
Side panel R
Side panel
③-2
③-1
Front side

● Upper chassis Assy

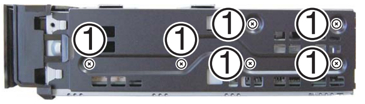
① Remove the 14 screws. (BBZ30P060FTB)



● **Rear view**



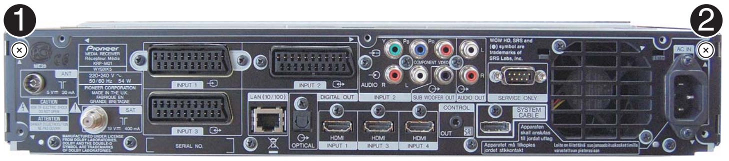
● **Side L**



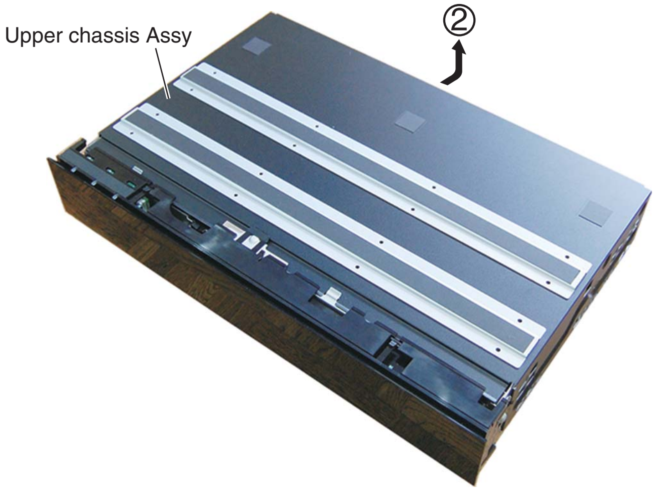
● **Side R**

● **Screw tightening order**

The other screws are random order.

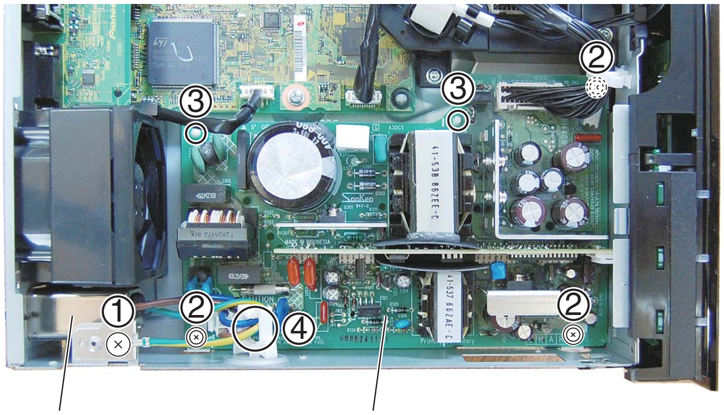


② Remove the upper chassis Assy.


Upper chassis Assy
②

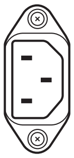
2 POWER SUPPLY Unit

① Remove the one screw. (BMP40P080FSN)
② Remove the three screws. (BBB30P080FSN)
③ Remove the two circuit board spacers.
④ Release the jumper wire.

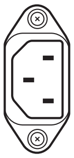

②
③
③
①
②
④
②
AC inlet
POWER SUPPLY Unit

⑤ Remove the two screws. (ABZ30P080FTB)
⑥ Remove the AC inlet.

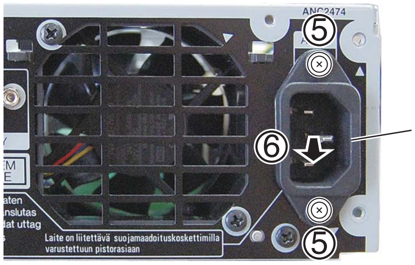
- **An installation direction of the AC inlet**



OK

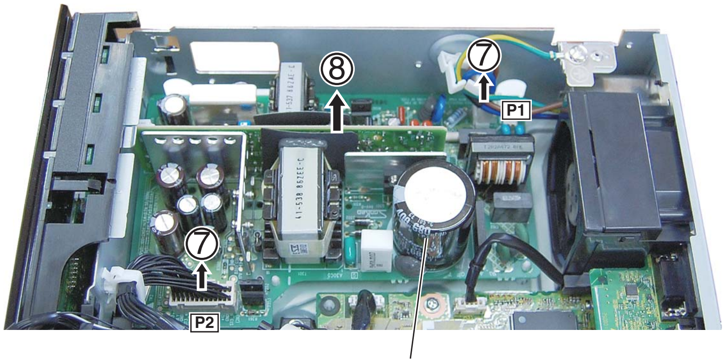


NG


⑤
⑥
⑤
AC inlet

- **Rear view**

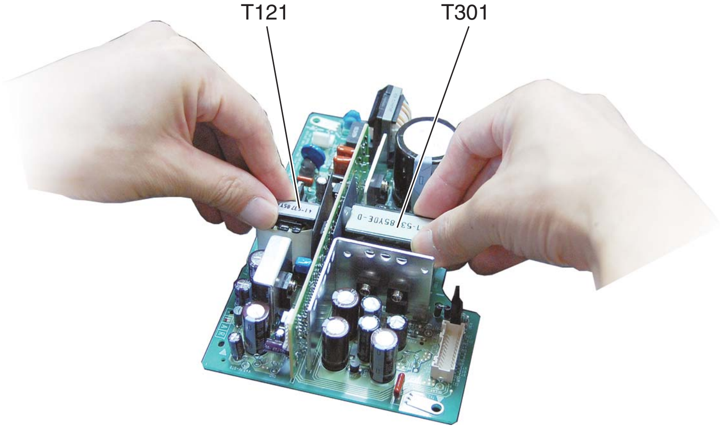
⑦ Disconnect the two connectors.
⑧ Remove the POWER SUPPLY Unit.


⑧
⑦
P1
⑦
P2
POWER SUPPLY Unit

Notes on Removing the POWER SUPPLY Unit

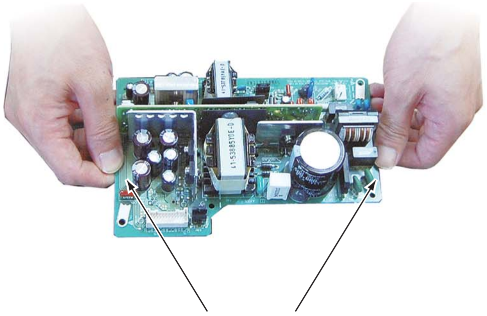
● How to lift up the POWER SUPPLY Unit

When you remove the POWER SUPPLY Unit from the chassis, first lift the board by pinching T121 and T301 transformers with your fingers. When the board is lifted up to a certain height, hold it by hand. NEVER hold the board by the radiator that is adjacent to the transformer.

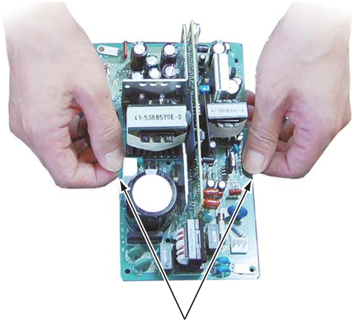


● How to hold the board after removing it from the chassis

The following two ways are recommended for holding the POWER SUPPLY Unit:

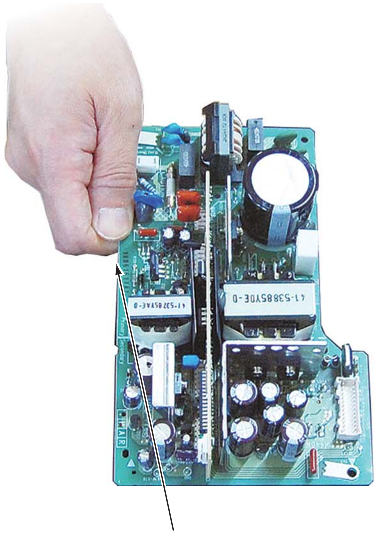


Hold at the center positions of both rims of the board.

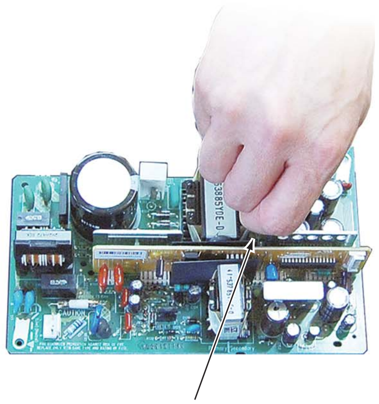


Hold at the center positions of both rims of the board.

Ways to be avoided:



NEVER hold a corner of the board with one hand.



NEVER hold the board by the radiator with one hand.

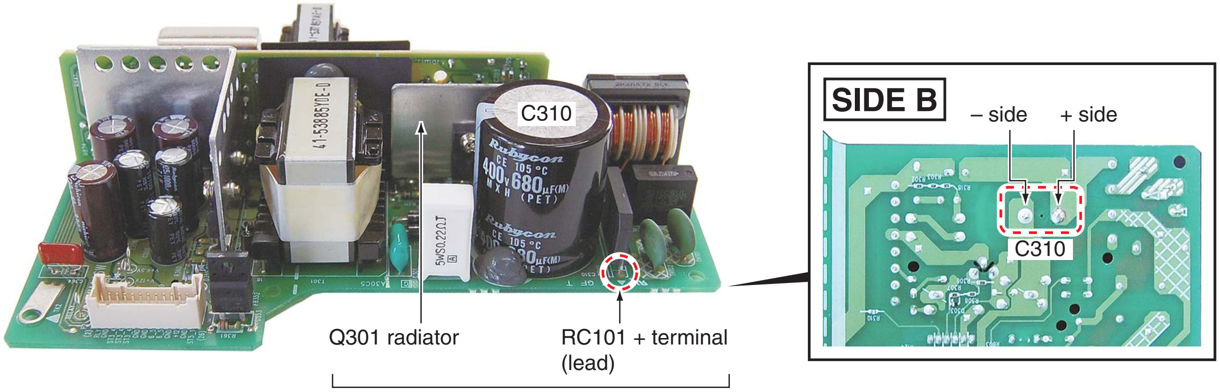
Note on Removing the POWER SUPPLY Unit from the Chassis and Method for Resetting Standby Power Latchup

For 3-5 minutes after the unit is turned off, residual electric charge remains in the C310 capacitor on the POWER SUPPLY Unit. Before removing the POWER SUPPLY Unit from the chassis, be sure to confirm that residual charge inside the POWER SUPPLY Unit has become sufficiently low. (Without forced discharge, residual charge that remains after 3-5 minutes will fall to one-tenth or less, which is still about 20 V. Therefore, even after the POWER SUPPLY Unit is removed, it is recommended to perform forced discharge on the POWER SUPPLY Unit, as shown below.)

For quick removal of residual charge, forced discharge is recommended, using two 220 ohm/10 W resistors (440 ohm/20 W).

● How to remove the POWER SUPPLY Unit

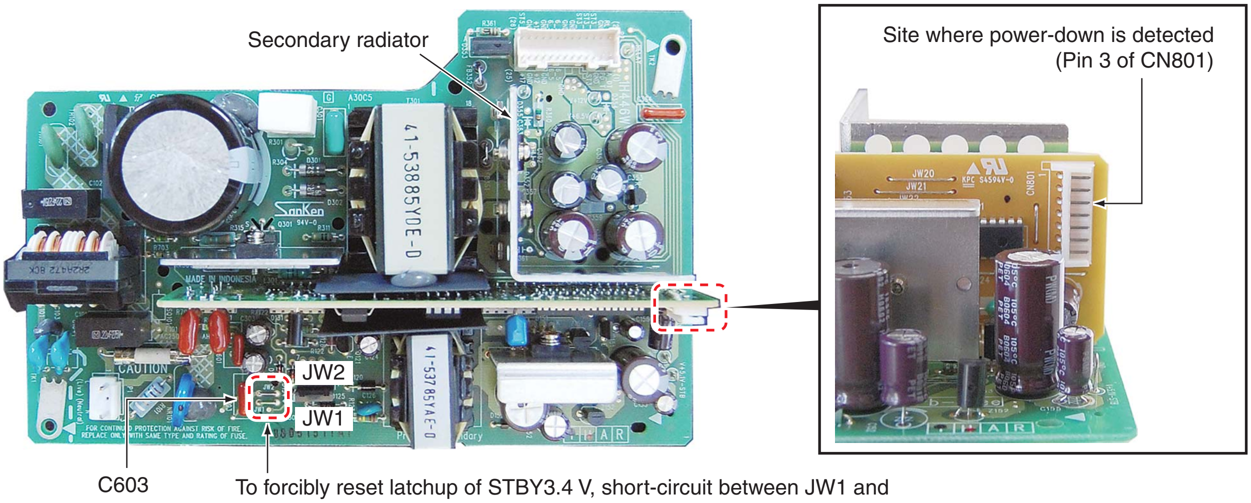
1. Make sure that the AC power cord is unplugged. Using a tester, check the voltage between the + terminal of RC101 bridge diode and Q301 radiator (equivalent to the voltage between two electrodes of C310).
2. Let the unit sit for more than 5 minutes until the voltage equivalent to that between two electrodes of C310 falls to under 20 V.
3. After checking that the voltage is under 20 V, disconnect the connectors of the POWER SUPPLY Unit and remove the POWER SUPPLY Unit.
4. Using two resistors mentioned above, completely discharge residual charge from C310.



After checking that the voltage at the measurement points (equivalent to the voltage between two electrodes of C310) is under 20 V, remove the POWER SUPPLY Unit.
Then, completely discharge residual charge, using resistors.

● How to reset Standby power latchup (In a case where the protection against Standby power excess voltage is activated)

1. After removing the causes of the malfunction, short-circuit between the JW1 and JW2 jumpers.
2. If the POWER SUPPLY Unit functions properly, after opening the above jumpers, the unit starts up.

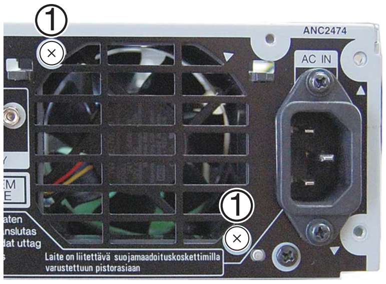


To forcibly reset latchup of STBY3.4 V, short-circuit between JW1 and JW2 (near C603), using a flathead screwdriver or similar object.
If the causes of the malfunction are removed, after opening the jumpers, the unit starts up.

3 REAR IO Assy

● FAN unit

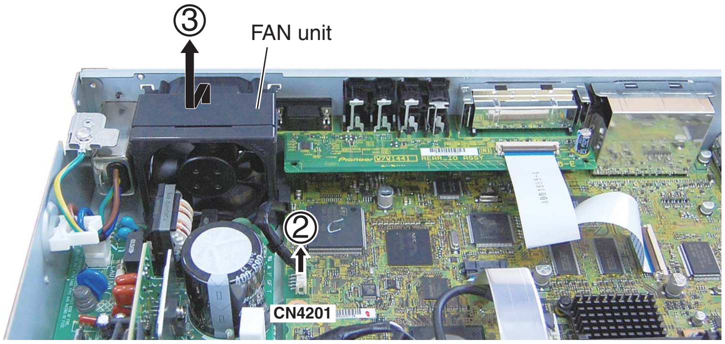
① Remove the two screws. (BPZ30P080FTB)


①
ANC2474
AC IN
①

● Rear view

② Disconnect the one connector.

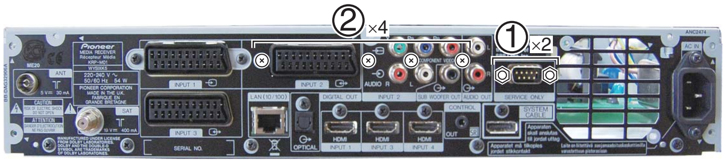
③ Remove the FAN unit.


③
FAN unit
②
CN4201

● REAR IO Assy

① Remove the two hexagon headed screws. (ABA1382)

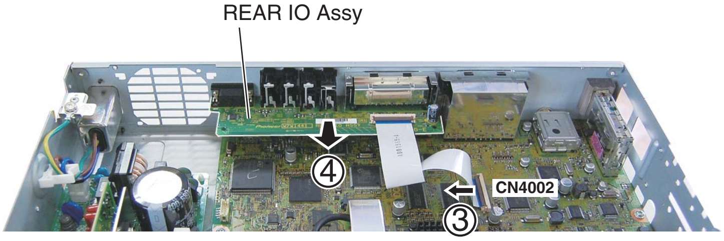
② Remove the four screws. (BPZ30P080FTB)



● Rear view

③ Disconnect the one flexible cable.

④ Remove the REAR IO Assy.

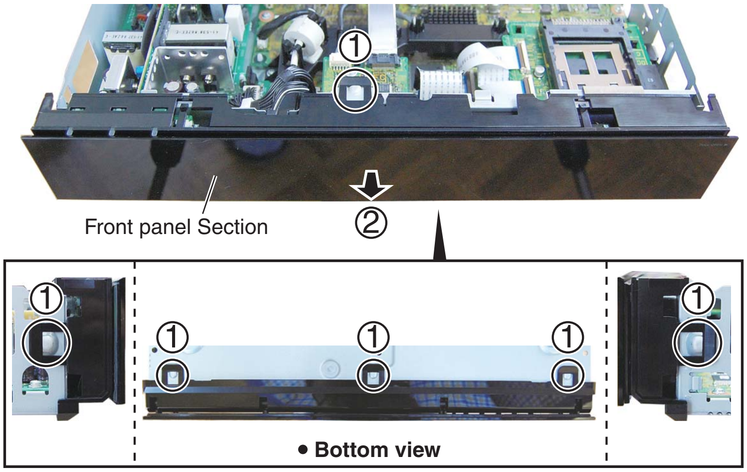

REAR IO Assy
④
CN4002
③

4 Front Panel Section

● Front panel Section

① Unhook the six hooks.

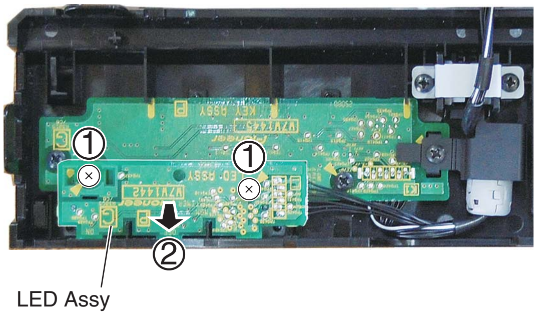
② Remove the front panel Section.


①
②
Front panel Section
①
①
①
①
①
● Bottom view

● LED and KEY Assys

① Remove the two screws. (BPZ30P080FTB)

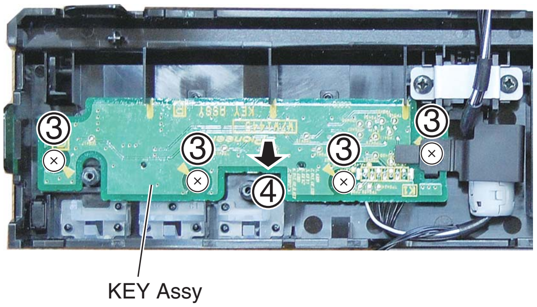
② Remove the LED Assy.


①
①
②
LED Assy

③ Remove the four screws. (BPZ30P080FTB)

④ Remove the KEY Assy.

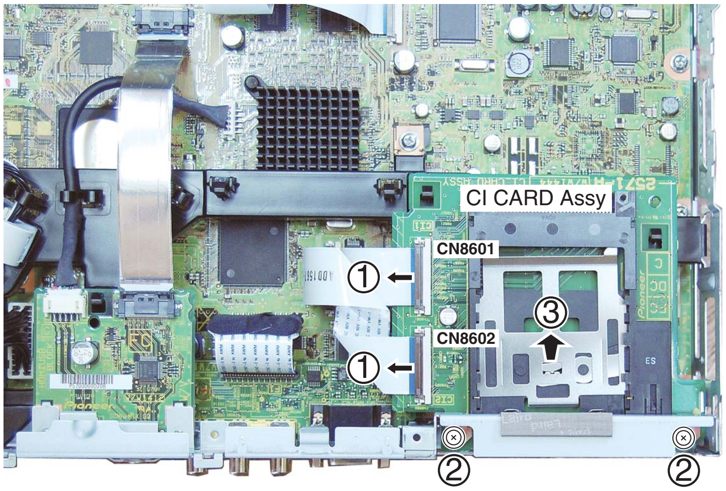
Note:
Before tightening screws, make sure that the protect film has been attached.
(For details on the place at which the protect film is to be attached, see “1.2 NOTES SPECIFIC TO THIS PRODUCT.”)


③
③
③
③
④
KEY Assy

5 CI CARD and FRONT_HDM_USB Assys

● CI CARD Assy

① Disconnect the two flexible cables.
② Remove the two screws. (ABZ30P060FTC)
③ Remove the CI CARD Assy.

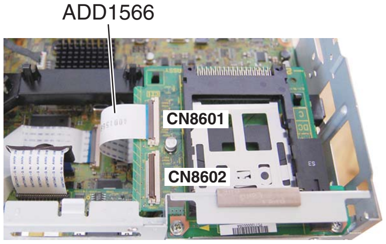

CI CARD Assy
CN8601
①
CN8602
①
③
②
②

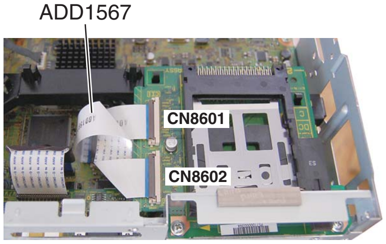
● Note on Connection of the Flexible Flat Cable for the CI CARD Assy

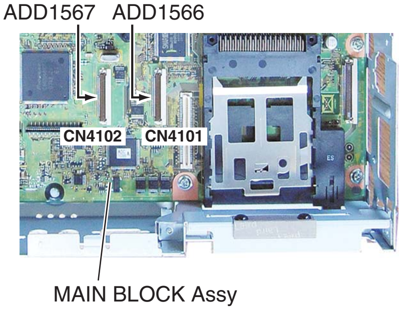
How to Check for Inverse Connection

After connecting the FFC cable for the CI CARD Assy, make sure that the part number printed on the upper surface of the cable is ADD1567.

ADD1567	Correctly connected
ADD1566	Inversely connected


ADD1566
CN8601
CN8602


ADD1567
CN8601
CN8602

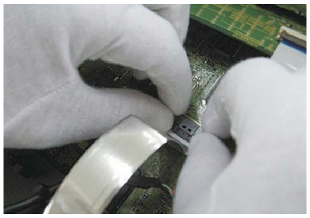

ADD1567
ADD1566
CN4102
CN4101
MAIN BLOCK Assy

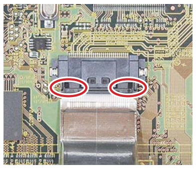
Unit operation when the cable is inversely connected

	Activated operation	Unit operation
Unit	When activated	It starts up properly.
Slot 1: Lower slot (mounted on the MAIN BLOCK Assy)	When the circuits in the Card block are activated	They operate properly.
	When a card is inserted in Slot 1	They operate properly.
Slot 2: Upper slot (mounted on the CI CARD Assy)	When the circuits in the Card block are activated	They are not activated (no risk of being damaged, though).
	When a card is inserted in Slot 2	They are not activated (no risk of being damaged, though).

● Notes on Connecting the Shielded Flexible Flat Cable

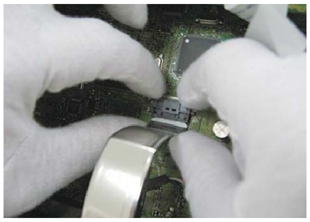
OK

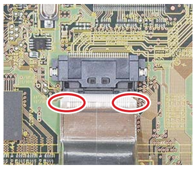




Push on the connector itself.

NG

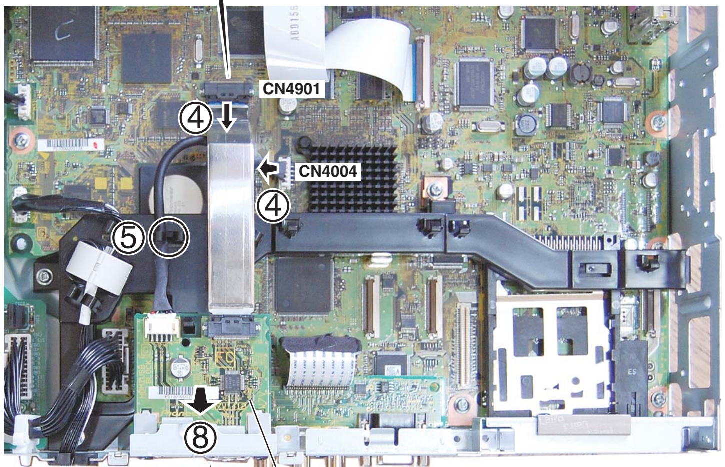




Do NOT connect the connector by pushing with the cable.

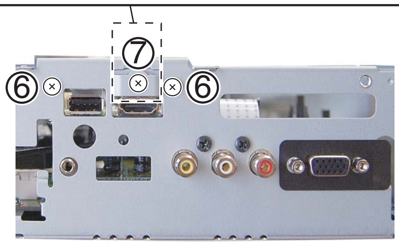
● FRONT_HDM_USB Assy

④ Disconnect the one flexible cable and one connectors.
⑤ Release the jumper wire.
⑥ Remove the two screws. (BBZ30P060FTB)
⑦ Remove the one screw. (VBA1088)
⑧ Remove the FRONT_HDM_USB Assy.



FRONT_HDM_USB Assy

Note:
Do not use an electric screwdriver.
If the screw is over-tightened, the screw thread may be damaged.



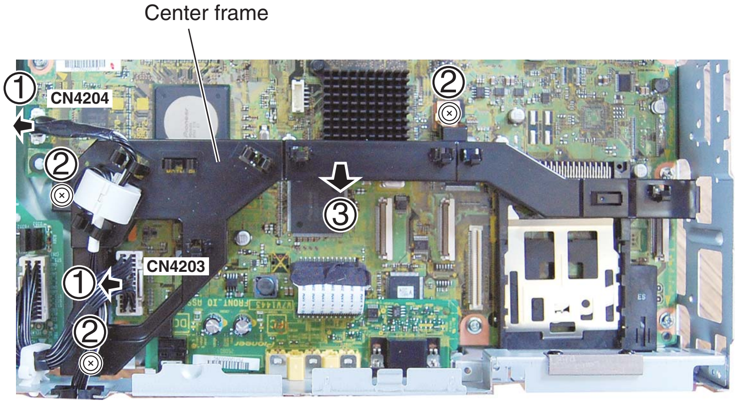
6 FRONT IO Assy

● Center frame

① Disconnect the two connectors.

② Remove the three screws. (ABA1383)

③ Remove the center frame.

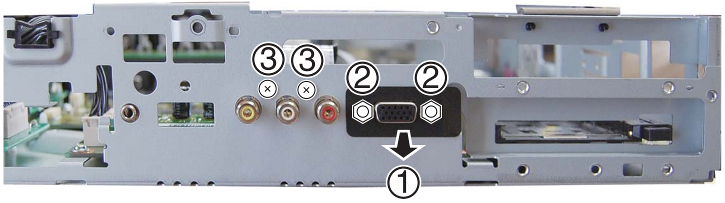

Center frame
①
CN4204
②
②
③
CN4203
①
②

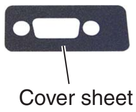
● FRONT IO Assy

① Remove the cover sheet.

② Remove the two hexagon headed screws. (ABA1382)

③ Remove the two screws. (BPZ30P080FTB)

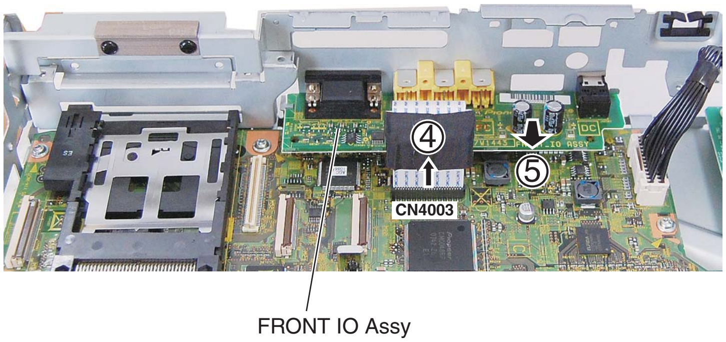



Cover sheet

• Be sure not to lose it.

④ Disconnect the one flexible cable.

⑤ Remove the FRONT IO Assy.


④
⑤
CN4003
FRONT IO Assy

7 MAIN BLOCK Assy

● Terminal panel (E)

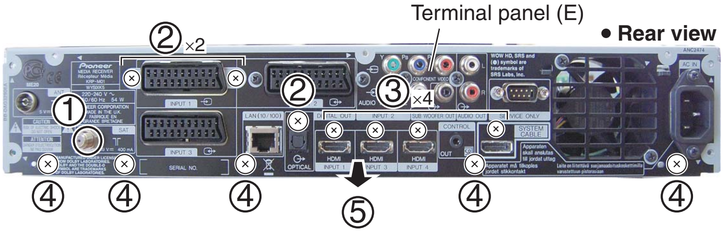
① Remove the one nut. (BBN1005)

② Remove the three screws. (BPZ30P080FTB)

③ Remove the four screws. (BMZ30P060FTB)

④ Remove the five screws. (BBZ30P060FTB)

⑤ Remove the terminal panel (E).


Terminal panel (E)
● Rear view
②×2
②
③×4
①
④
④
④
⑤
④
④

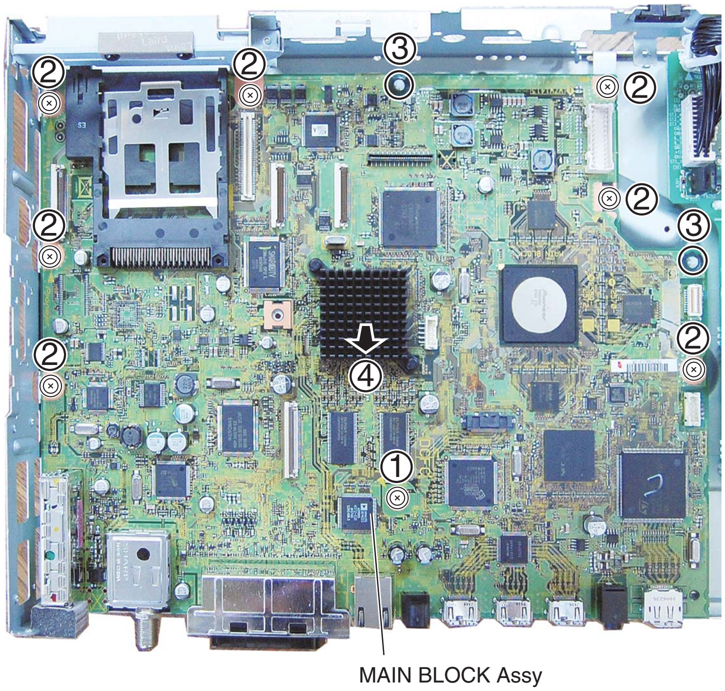
● MAIN BLOCK Assy

① Remove the one screw. (AMZ30P060FTB)

② Remove the seven screws. (ABA1383)

③ Remove the two circuit board spacers.

④ Remove the MAIN BLOCK Assy.


②
②
③
②
②
③
②
②
②
④
①
MAIN BLOCK Assy

8. EACH SETTING AND ADJUSTMENT

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

8.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	No adjustment required
MAIN BLOCK Assy (*)	➡	Execute section [5-5] AUTO ADJUSTMENT of 6.2 [5] INITIALIZE.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN BLOCK Assy, be sure to perform the FINAL SETUP.

■ Replacement of the whole Assy is required when one of the following part on the corresponding Assy is in failure

PCB Assy No.	Assy Name	Ref No.	Function Name	Part No.	Reason
AXY1204	POWER SUPPLY Unit	U0003	—	—	The maker forbids Pioneer from repairing the Assy.
AWV2570 AWV2572	MAIN BLOCK Assy	IC6403	DTV Flash	S29GL512P10TFIR1 -K (AGC1089)	Because ID data (MAC address and data on keys) have been stored
		IC6001	SYSTEM IC (BCM7404)	BCM7404XKPB11G-K	Because adjustments and data writing at the level of production line are required after replacement
		IC5002	HDCP EEPROM	BR24L02FV-W	
		IC5003	HDCP EEPROM	BR24L02FV-W	
		IC5004	HDCP EEPROM	BR24L02FV-W	
		IC7301	FRONT HDCP EEPROM	BR24L02FV-W	
		IC7004	EMMA2 EEPROM	BR24L64F-W	
		IC6701	ARIA FLASH	S29GL016A90TFIR2 -K (AGC1088)	
		IC6811	IF UCOM	AGC1086	
		IC7202	EMMA2 FLASH	S29GL032N90TFIO4 -K (AGC1087)	
		IC6201	BCM DDR SDRAM	HY5DU121622DTP-D43-K	
		IC6202	BCM DDR SDRAM	HY5DU121622DTP-D43-K	
		IC6203	BCM DDR SDRAM	HY5DU121622DTP-D43-K	
		IC6204	BCM DDR SDRAM	HY5DU121622DTP-D43-K	
AWV2571 (AWW1443)	FRONT_IO Assy	IC8501	PC EEPROM	BR24L01AFJ-W	Because adjustments and data writing at the level of production line are required after replacement

■ Part whose replacement is difficult

PCB Assy No.	Assy Name	Ref No.	Function Name	Part No.	Reason
AWV2570 AWV2572	MAIN BLOCK Assy	IC7003	SYSTEM IC (EMMA2)	UPD61123F1-100KA3A-K	Because these ICs are packaged in BGA
		IC6501	ASIC (ARIA)	PD6568A-K	
		IC6702	DDR SDRAM (ARIA)	EDD1232ABBH-5C-E-K	
		IC6703	DDR SDRAM (ARIA)	EDD1232ABBH-5C-E-K	
		IC6704	DDR SDRAM (ARIA)	EDD1232ABBH-5C-E-K	
		IC4801	ADC	AD9985KSTZ	Because these ICs require readjustment after replacement
		IC5101	AV SW	R2S11006FT	
		IC5501	RGB SW	R2S11001FT	
		IC4702	VDEC	CM0048BF	
		U5301	DVB-T	AXF1191	Because the part has many pins (from G9, through-hole print will be adopted)
		U5201	DVB-S2	AXF1195	
		JA5601	CI connector	AKP1341	Because the part has many pins
		JA7502	Scart connector	AKP1265	
		JA8801	Scart connector	AKP1266	
		IC4901	HDMI	SII9135CTU-K	Because a radiation pad is provided
		IC5201	S2 demodulation IC	STV-0903	
		IC4601	Regulator	LTC3407EMSE-2	
		IC4501	Regulator	BD8624EFV	
		IC4503	LNB Regulator	LNBH23PP-TBB	

■ Adjustment Procedures After a Part that Requires Readjustment is Replaced

Execute section “[5-5] AUTO ADJUST. <=>” of “6.2 [5] INITIALIZE.”

8.2 HOW TO UPDATE USB

Preparation

Expand the image-file folder for USB updating in the root directory of the USB memory device.

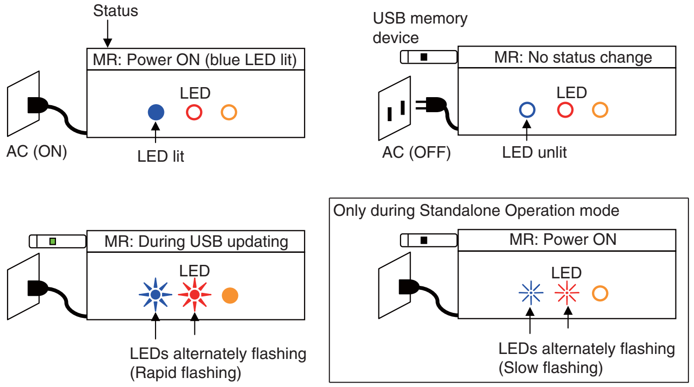
Example: Folder construction after expansion in the root directory of the USB memory device

(With the nonencrypted folder)	[update] ├ boot.img ├ update.ctl ├ update.iso └ update.lst
(With the encrypted folder)	[update] ├ boot.img ├ update.ctl ├ update.enc ├ update.key └ update.lst

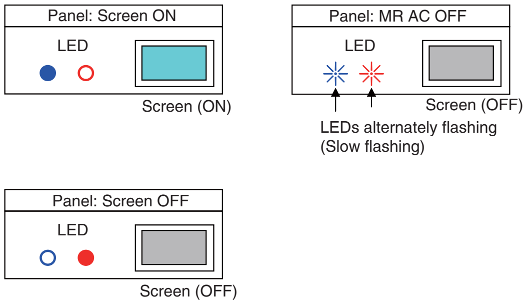
An encrypted image-file folder for USB updating will be released for general users.

Description of the figures

On the MR (Media Receiver)


Status
MR: Power ON (blue LED lit)
LED
AC (ON)
LED lit
USB memory device
MR: No status change
LED
AC (OFF)
LED unlit
MR: During USB updating
LED
LEDs alternately flashing
(Rapid flashing)
Only during Standalone Operation mode
MR: Power ON
LED
LEDs alternately flashing
(Slow flashing)

On the Panel (Display)


Panel: Screen ON
LED
Screen (ON)
Panel: MR AC OFF
LED
Screen (OFF)
LEDs alternately flashing
(Slow flashing)
Panel: Screen OFF
LED
Screen (OFF)

Procedures

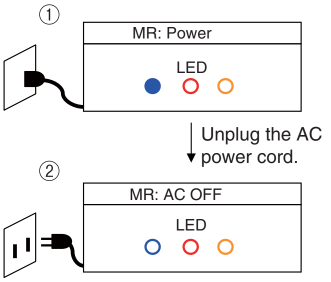
The methods for USB updating in System Operation mode and Standalone Operation mode of the MR are described below.
Note: Make sure that the display is always set in System Operation mode.

System Operation mode: Normal mode
How to set: Issue the “MRMS00” RS-232C command to start setting.
Note: Make sure that the display is always set to ON.

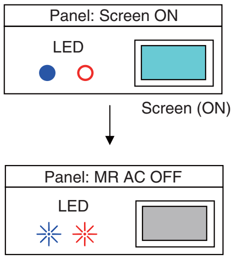
(1) Setting before starting USB updating

Set only the MR from last Standby ON to AC OFF.

On the MR


①
MR: Power
LED
Unplug the AC power cord.
②
MR: AC OFF
LED

On the Panel

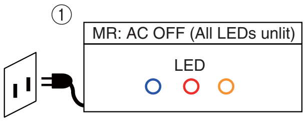

Panel: Screen ON
LED
Screen (ON)
Panel: MR AC OFF
LED

Standalone Operation mode: Standalone Operation mode of the MR
How to set: Issue the “MRMS01” RS-232C command to start setting.

(1) Setting before starting USB updating

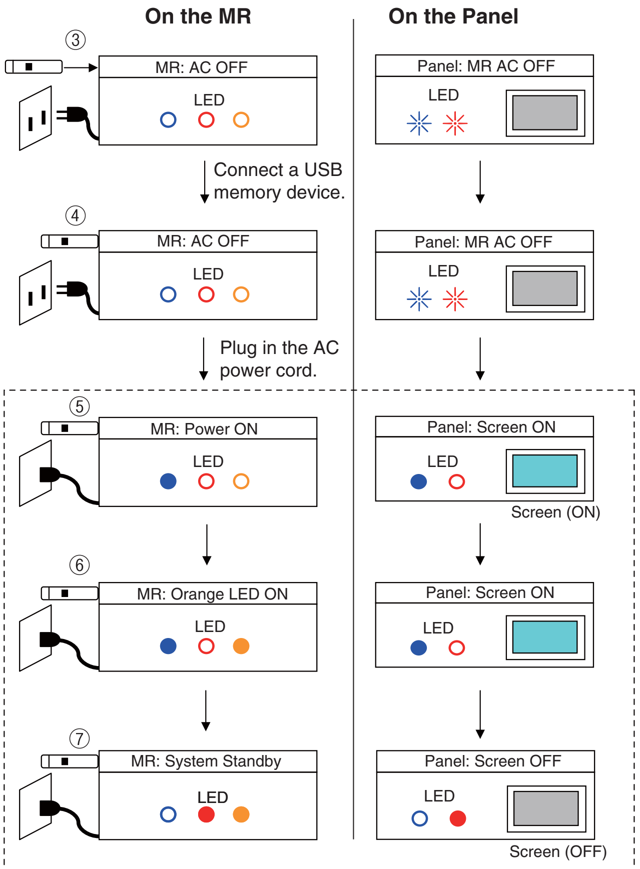
Disconnect the AC power cord.

On the MR


①
MR: AC OFF (All LEDs unlit)
LED

(2) Procedures for USB updating

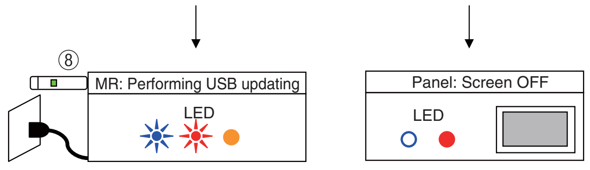
Connect a USB memory device, then plug in the AC power cord.


On the MR
On the Panel
③
MR: AC OFF
LED
Panel: MR AC OFF
LED
Connect a USB memory device.
④
MR: AC OFF
LED
Panel: MR AC OFF
LED
Plug in the AC power cord.
⑤
MR: Power ON
LED
Panel: Screen ON
LED
Screen (ON)
⑥
MR: Orange LED ON
LED
Panel: Screen ON
LED
⑦
MR: System Standby
LED
Panel: Screen OFF
LED
Screen (OFF)

Note: If you interrupt the updating procedure in this step, updating is not started, and normal startup will begin.

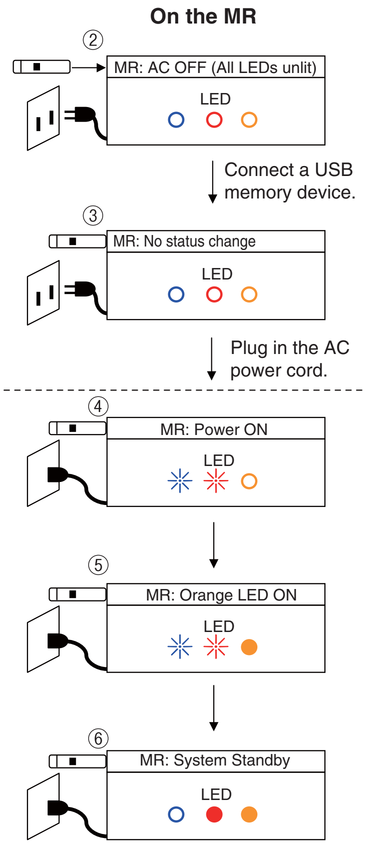
NEVER use the remote control unit. (Especially DO NOT use the Power key.)

[If you use any key on the remote control unit in Steps ⑤ to ⑦]
If the unit does not shift to Step ⑧, disconnect the USB memory device then try the procedures from the beginning.
If the unit shifts to Step ⑧, continue the updating procedures as described.

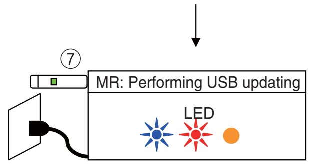

⑧
MR: Performing USB updating
LED
Panel: Screen OFF
LED

(2) Procedures for USB updating

Connect a USB memory device, then plug in the AC power cord.

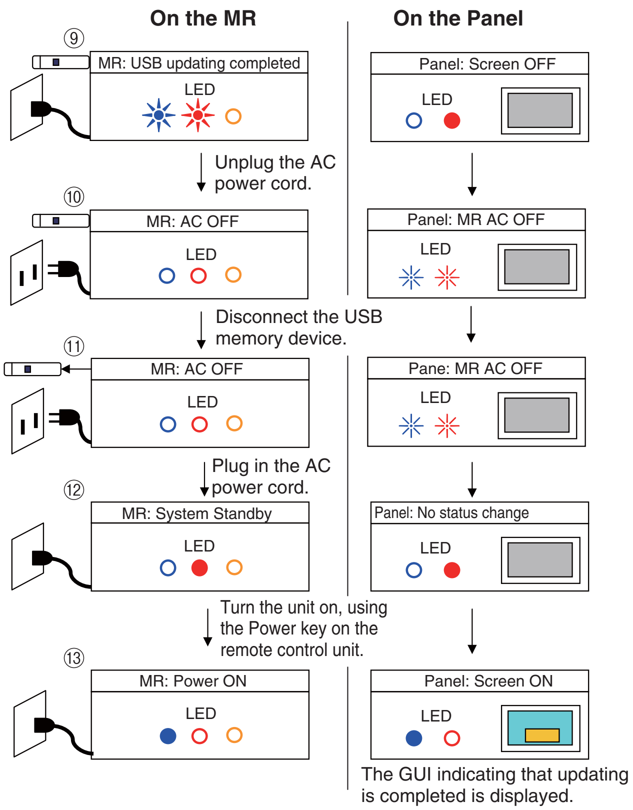

On the MR
②
MR: AC OFF (All LEDs unlit)
LED
Connect a USB memory device.
③
MR: No status change
LED
Plug in the AC power cord.
④
MR: Power ON
LED
⑤
MR: Orange LED ON
LED
⑥
MR: System Standby
LED

[If you use any key on the remote control unit in Steps ④ to ⑥]
If the unit does not shift to Step ⑦, disconnect the USB memory device then try the procedures from the beginning.
If the unit shifts to Step ⑦, continue the updating procedures as described.


⑦
MR: Performing USB updating
LED

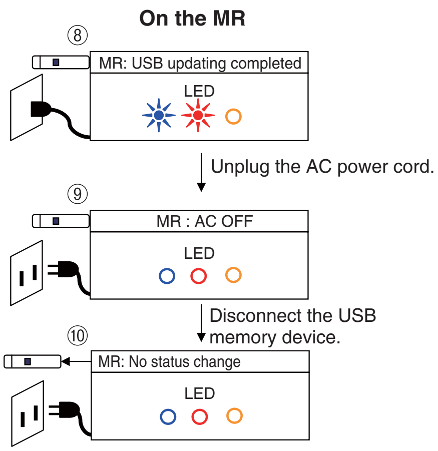
(3) Completion procedures for USB updating

After USB updating is completed, perform the following steps (unplug the AC power cord, disconnect the USB memory device, then plug the AC power cord back in).


On the MR
On the Panel
⑨
MR: USB updating completed
LED
Panel: Screen OFF
LED
Unplug the AC power cord.
⑩
MR: AC OFF
LED
Panel: MR AC OFF
LED
Disconnect the USB memory device.
⑪
MR: AC OFF
LED
Pane: MR AC OFF
LED
Plug in the AC power cord.
⑫
MR: System Standby
LED
Panel: No status change
LED
Turn the unit on, using the Power key on the remote control unit.
⑬
MR: Power ON
LED
Panel: Screen ON
LED
The GUI indicating that updating is completed is displayed.

(3) Completion procedures for USB updating

After USB updating is completed, perform the following steps (unplug the AC power cord, disconnect the USB memory device, then plug the AC power cord back in).

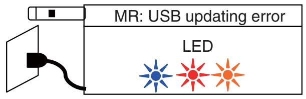

On the MR
⑧
MR: USB updating completed
LED
Unplug the AC power cord.
⑨
MR : AC OFF
LED
Disconnect the USB memory device.
⑩
MR: No status change
LED

Return the MR to System Operation mode, by sending a command via the RS-232C connector.
How to set: Send the “MRMS00” command via the RS-232C connector.

In Standalone Operation mode of the MR, the GUI indicating that updating is completed is not displayed.

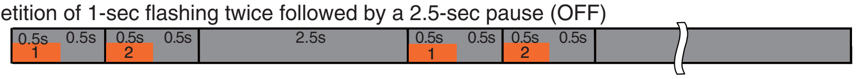
■ List of frequency of LED (orange) flashing when updating fails

If updating is interrupted, the orange LED flashes to warn you of the error.


MR: USB updating error
LED

Frequency of Orange LED Flashing	Error Content	Details
1	(Not used)	
2	Version error	The same version or a newer version of software has already been loaded.
3	USB update startup error	Startup of USB updating failed.
4	DTV Update Error	Updating of the DTV software failed.
5	MAIN Download Error	Updating of the MAIN microcomputer software failed.
6	ARIA Download Error	Updating of the ASIC software in the previous stage failed.
7	ZEUS Download Error	Updating of the ASIC software in the later stage failed.
8	Module Download Error	Updating of the module microcomputer software failed.
9	IF Download Error	Updating of the IF microcomputer software failed.
10	USB disconnection	Abnormality in the USB memory device
11 to 13	Reserved	-
14	Destination error	The software for a different destination (Europe/North America/Australia) was used for updating.

Example: In a case where the orange LED flashes twice (version error)
Repetition of 1-sec flashing twice followed by a 2.5-sec pause (OFF)


0.5s
1
0.5s
0.5s
2
0.5s
2.5s
0.5s
1
0.5s
0.5s
2
0.5s

Under the following conditions, USB updating procedures will be interrupted at Step 5 above, and normal startup will begin, but the LED does not flash for error indication.

Conditions under which the LED will not flash for error indication

- Any USB updating file is damaged
- Not all USB updating files are stored in the USB memory device
- The USB updating files are modified
- The USB memory device is defective

8.3 HOW TO UPDATE DISPLAY PORT FIRMWARE

1. Preparation of Tools

1. Activate the “ISPUtility xxxxxxxx.exe” file to install the ISP Utility.
   On each screen, select “Next” until the installation wizard is finished.
2. Activate the “CGProbe Redistributable xxxx.exe” file.
   On each screen, select “Next” until the wizard is finished.
3. Place the following files in the designated paths:
   chip.xml
   C:¥Program Files¥Genesis Microchip¥ISP Utility¥
   SAFELite-ISP_S25FL016A.hex
   C:¥Program Files¥Genesis Microchip¥ISP Utility¥Isp¥safe-lite

Note: If you changed the program installation path, the above-mentioned paths may be different.

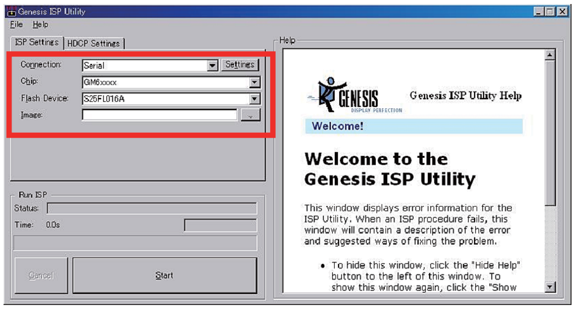
2. Updating

1. Connect the PC with the Media Receiver (MR) or Panel (Display), using an RS-232C straight cable.
2. Set the connected MR or Panel to Standby mode.
3. Disconnect the DP cable.
4. Start up the program for sending RS-232C commands:
   Baud rate: 9600
   COM port: Select, according to the environment of the PC.
5. Send the “UFW” command. Check that the red and blue LEDs flash.
6. Issue a command corresponding to the firmware to be updated.

[In a case where the DP firmware on the MR is updated]
Issue the “DPT” command.

[In a case where the DP firmware on the display is updated]
Issue the “DPR” command.

7. With the program for sending RS-232C commands, terminate the connection.
8. Start up the ISP Utility program and set up the ISP Settings screen.


Genesis ISP Utility
File Help
ISP Settings
HDCP Settings
Settings
Run ISP
Cancel
Start
Help
GENESIS DISPLAY PERFECTION
Genesis ISP Utility Help
Welcome!

Connection: Serial
Chip: GM6xxxx
Flash Device: S25FL016A
Image:
Status:
Time: 0.0s

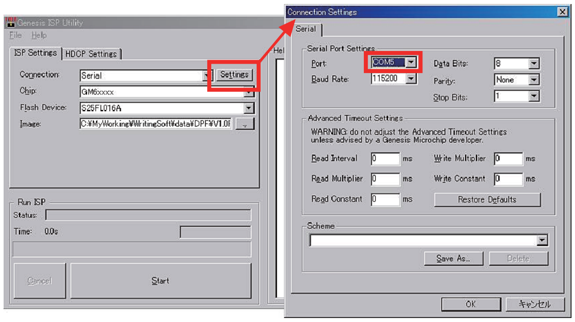
Welcome to the Genesis ISP Utility

This window displays error information for the ISP Utility. When an ISP procedure fails, this window will contain a description of the error and suggested ways of fixing the problem.

- To hide this window, click the "Hide Help" button to the left of this window. To show this window again, click the "Show

Connection: Serial
Chip: GM6xxxx
Flash Device: S25FL016A
Image: Select the “.hex” file to write to.

When “Serial” is selected in the “Connection” box, selection of Com ports is enabled. Click on “Settings” then select a Com port, according to the environment of the PC.


Genesis ISP Utility
File Help
ISP Settings
HDCP Settings
Settings
Run ISP
Cancel
Start
Connection Settings
Serial
Serial Port Settings
Advanced Timeout Settings
Restore Defaults
Scheme
Save As...
Delete
OK
キャンセル

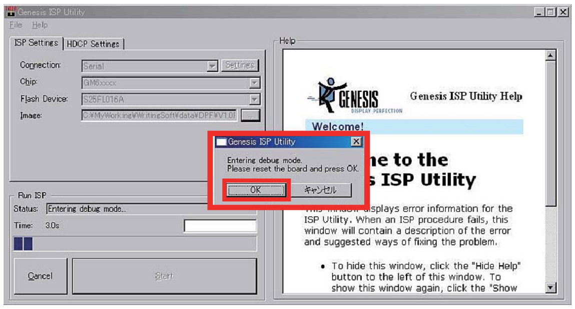
Connection: Serial
Chip: GM6xxxx
Flash Device: S25FL016A
Image: C:¥MyWorking¥WritingSoft¥data¥DPF¥V1.0I
Status:
Time: 0.0s

Port: COM5
Baud Rate: 115200
Data Bits: 8
Parity: None
Stop Bits: 1

WARNING: do not adjust the Advanced Timeout Settings unless advised by a Genesis Microchip developer.

Read Interval: 0 ms
Write Multiplier: 0 ms
Read Multiplier: 0 ms
Write Constant: 0 ms
Read Constant: 0 ms

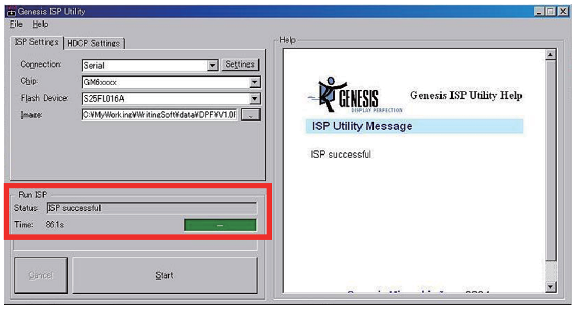
9. After all necessary settings are completed, click on Start to start updating.
10. When the following message is displayed, click on OK.


Genesis ISP Utility
File Help
ISP Settings
HDCP Settings
Settings
Run ISP
Cancel
Start
Help
GENESIS DISPLAY PERFECTION
Genesis ISP Utility Help
Welcome!
OK
キャンセル

Connection: Serial
Chip: GM6xxxx
Flash Device: S25FL016A
Image: C:¥MyWorking¥WritingSoft¥data¥DPF¥V1.0I
Status: Entering debug mode...
Time: 3.0s

Genesis ISP Utility
Entering debug mode.
Please reset the board and press OK.

11. The current status is displayed in the “Status” box. When “ISP Successful” is displayed, updating is completed successfully.

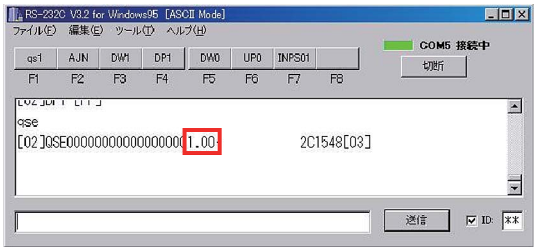

Genesis ISP Utility
File Help
ISP Settings
HDCP Settings
Settings
Run ISP
Cancel
Start
Help
GENESIS DISPLAY PERFECTION
Genesis ISP Utility Help

Connection: Serial
Chip: GM6xxxx
Flash Device: S25FL016A
Image: C:¥MyWorking¥WritingSoft¥data¥DPF¥V1.0I
Status: ISP successful
Time: 86.1s

ISP Utility Message
ISP successful

12. Terminate the utility program and turn the MR or display off then back on again.
    With the program for sending RS-232C commands, reestablish the connection. Then send the command for version check.

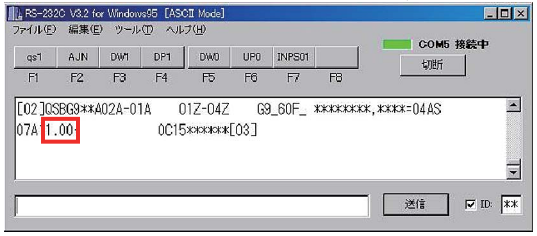
Command for version check With the MR: QSE


RS-232C V3.2 for Windows95 [ASCII Mode]
ファイル(F) 編集(E) ツール(T) ヘルプ(H)
qs1
AJN
DW1
DP1
DW0
UP0
INPS01
F1
F2
F3
F4
F5
F6
F7
F8
COM5 接続中
切断
送信
ID:

```
qse
[02]QSE0000000000000000 1.00           2C1548[03]
```

☑ ID: **

Command for version check with the display: QSB


RS-232C V3.2 for Windows95 [ASCII Mode]
ファイル(F) 編集(E) ツール(T) ヘルプ(H)
qs1
AJN
DW1
DP1
DW0
UP0
INPS01
F1
F2
F3
F4
F5
F6
F7
F8
COM5 接続中
切断
送信
ID:

```
[02]QSBG9**A02A-01A     01Z-04Z     G9_60F_ ********,****=04AS
07A 1.00              0C15******[03]
```

☑ ID: **

13. Check that the version has been properly updated. This completes the updating procedures.

A

B

C

D

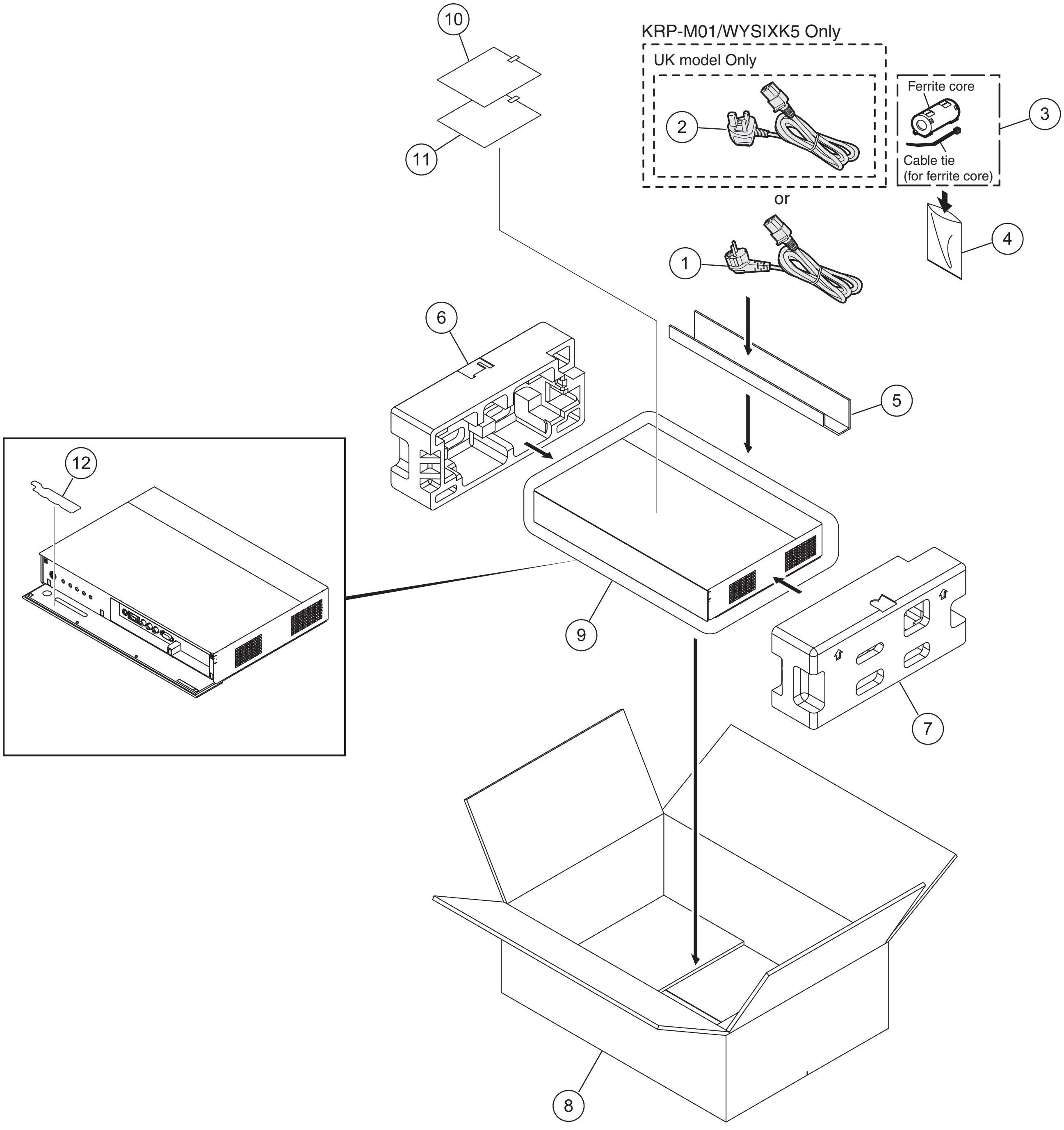
E

F

9. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

9.1 PACKING SECTION


10
11
KRP-M01/WYSIXK5 Only
UK model Only
2
or
1
Ferrite core
Cable tie
(for ferrite core)
3
4
6
5
12
9
7
8

(1) PACKING SECTION PARTS LIST

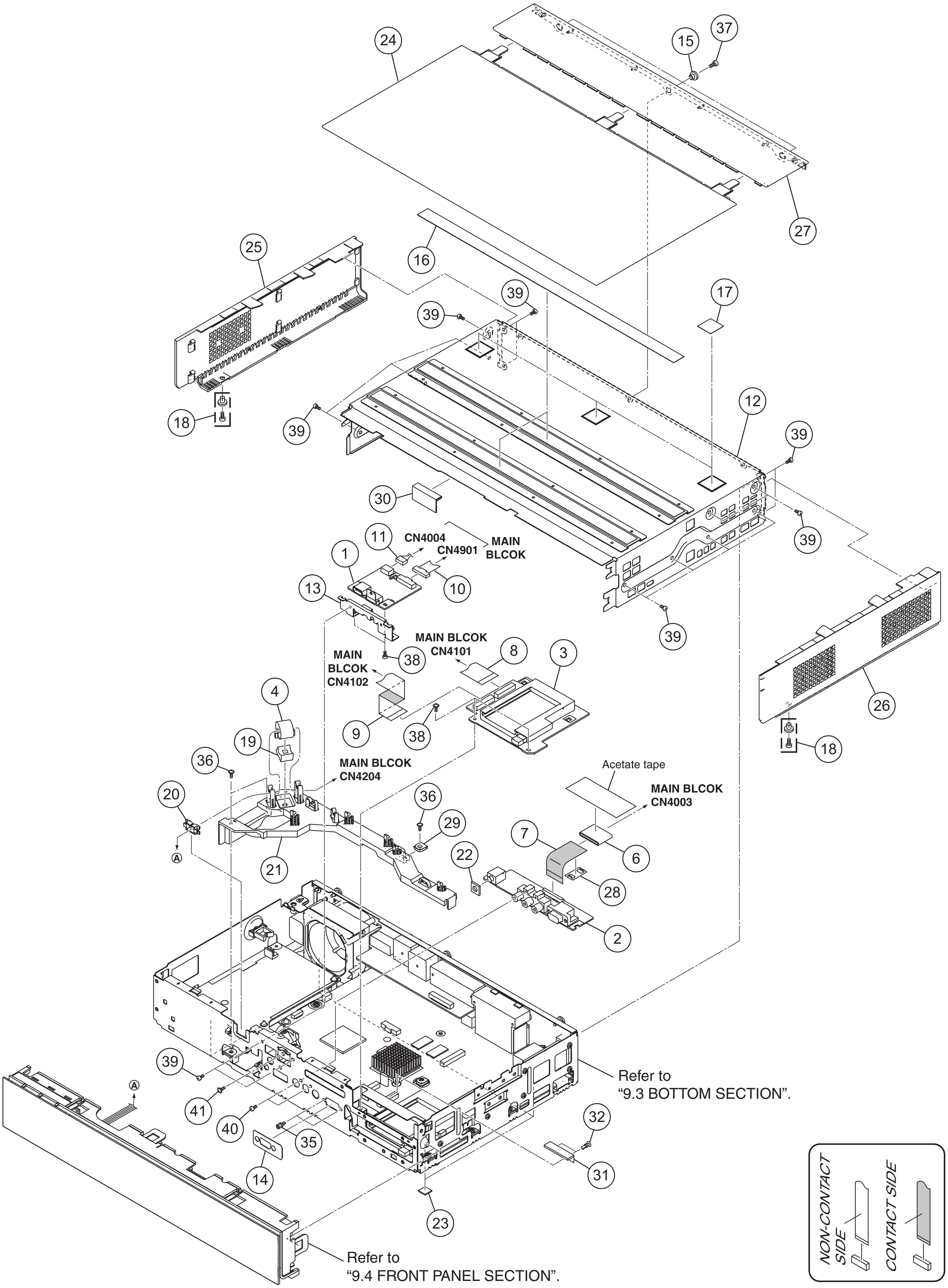
Mark	No.	Description	Part No.
⚠	1	Power Cable	ADG1214
⚠	2	Power Cable	See Contrast table (2)
⚠	3	Ferrite Core (L5208)	ATX1039
	4	Vinyl Bag	AHG1337
	5	ACC Carton	See Contrast table (2)
	6	Pad L	See Contrast table (2)
	7	Pad R	See Contrast table (2)
	8	Carton	See Contrast table (2)
	9	Mirror Mat	AHG1420
	10	Caution Card	See Contrast table (2)
	11	Film Caution Card	See Contrast table (2)
	12	Protect Film	GGP1121

(2) CONTRAST TABLE

KRP-M01/WYSIXK5 and WYSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	KRP-M01/WYSIXK5	KRP-M01/WYSXJ5
⚠	2	Power Cable	ADG1223	Not used
	5	ACC Carton (E)	AHD3677	Not used
	5	ACC Carton (G)	Not used	AHD3679
	6	Pad L (E)	AHA2735	Not used
	6	Pad L (G)	Not used	AHA2739
	7	Pad R (E)	AHA2736	Not used
	7	Pad R (G)	Not used	AHA2740
	8	Carton (E)	AHD3674	AHD3725
	10	Caution Card	ARM1439	ARM1440
	11	Film Caution Card	ARM1448	ARM1449

9.2 EXTERIOR SECTION


24
15
37
27
25
16
39
17
18
12
30
11
CN4004
CN4901
MAIN BLCOK
1
10
13
MAIN BLCOK CN4101
8
3
MAIN BLCOK CN4102
38
9
4
19
36
20
MAIN BLCOK CN4204
21
Ⓐ
29
22
7
6
28
2
Acetate tape
MAIN BLCOK CN4003
26
41
40
35
14
32
31
23
NON-CONTACT SIDE
CONTACT SIDE

Refer to “9.3 BOTTOM SECTION”.

Refer to “9.4 FRONT PANEL SECTION”.

(1) EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	FRONT_HDM_USB Assy	AWW1412
	2	FRONT IO Assy	AWW1443
	3	CI CARD Assy	AWW1444
⚠	4	Ferrite Core (F1001)	ATX1034
	5	•••••	
⚠	6	Ferrite Core (F1)	ATX1073
	7	Flexible Cable (J201)	ADD1564
	8	Flexible Cable (J204)	ADD1566
	9	Flexible Cable (J205)	ADD1567
	10	30P Shield FFC (J101)	ADF1042
	11	USB Cable (J102)	ADX3713
	12	Upper Chassis Assy	See Contrast table (2)
	13	PCB Holder	See Contrast table (2)
	14	Cover Sheet	AAK2850
	15	Collar	ABN1095
	16	Upper Cushion	AEB1504
	17	Top Cushion	AEB1505
	18	Scrivet	AEC1657
	19	Ferrite Core Holder	AEC1818
	20	Edge Saddle	AEC1946
	21	Center Frame	AMR3844
⚠	22	Gasket HP	ANK1994
	23	Rubber Foot	VEB1349
	24	Top Panel F	AAK2940
	25	Side Panel L	AAK2941
	26	Side Panel R	AAK2942
	27	Top Panel R	AAK2946
	28	Ferrite Stopper	AEC1981
⚠	29	Earth Plate MAIN	ANG3219
⚠	30	Gasket UP2	ANK1999
⚠	31	Gasket CI	ANK1996
	32	Rivet A	BEC1158
	33	•••••	
	34	•••••	
	35	Hexagon Headed Screw	ABA1382
	36	Screw	ABA1383
	37	Screw	ABA1391
	38	Screw	ABZ30P060FTC
	39	Screw	BBZ30P060FTB
	40	Screw	BPZ30P080FTB
	41	Screw (FE)	VBA1088

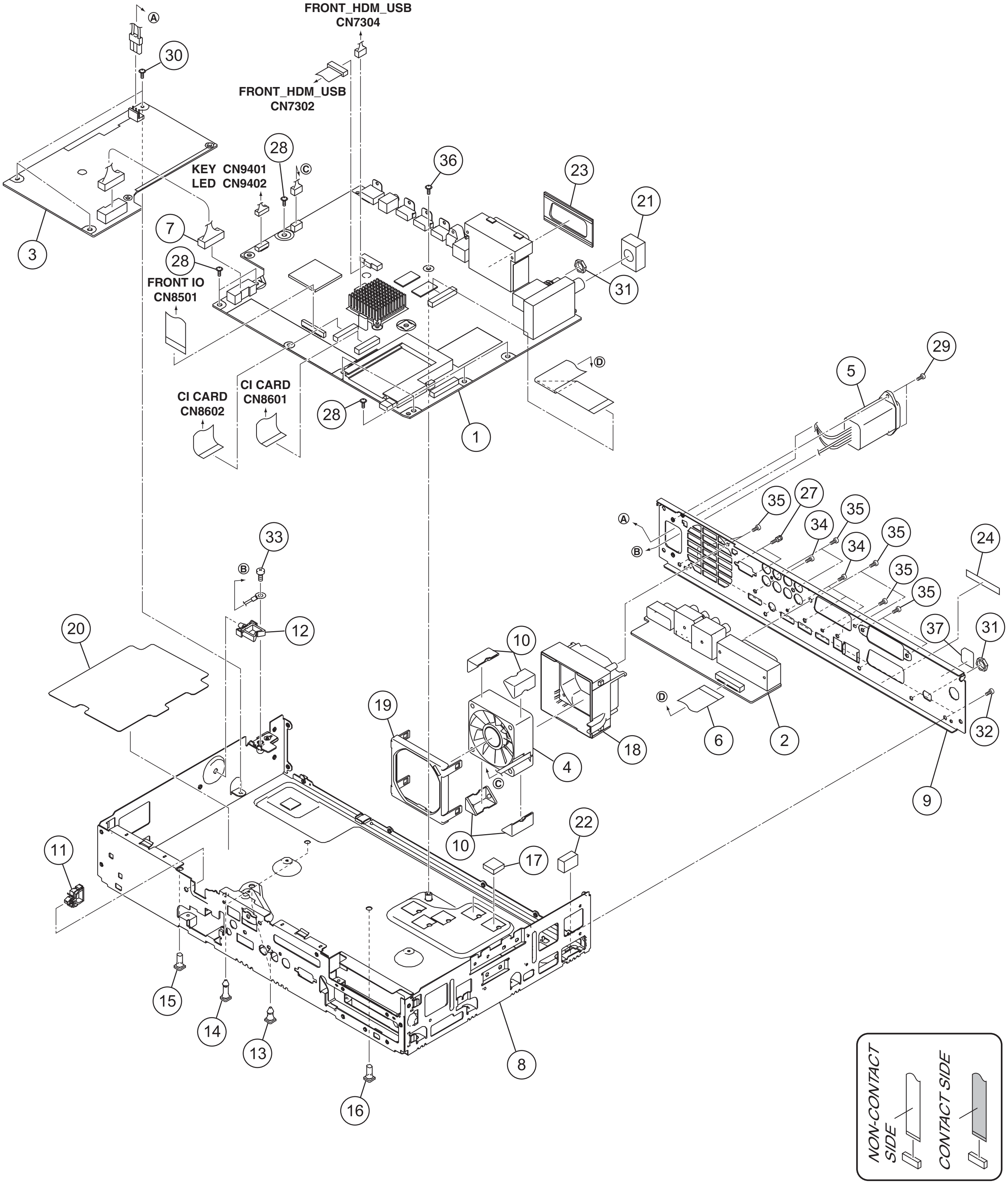
(2) CONTRAST TABLE

KRP-M01/WYSIXK5 and WYSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	KRP-M01/WYSIXK5	KRP-M01/WYSXJ5
	12	Upper Chassis Assy	ANA2187	ANA2224
	13	PCB Holder	ANG3186	ANG3217

9.3 BOTTOM SECTION

Cleaning paper :
GED-008



FRONT_HDM_USB
CN7304
FRONT_HDM_USB
CN7302
KEY CN9401
LED CN9402
FRONT IO
CN8501
CI CARD
CN8602
CI CARD
CN8601
Ⓐ
Ⓑ
Ⓒ
Ⓓ
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
27
28
29
30
31
32
33
34
35
36
37
NON-CONTACT SIDE
CONTACT SIDE

(1) BOTTOM SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN BLOCK Assy	AWW1413
	2	REAR IO Assy	AWW1441
⚠	3	POWER SUPPLY Unit	AXY1204
⚠	4	DC FAN Motor 60 x 25L	AXM1068
⚠	5	AC Inlet (CN1)	AKP1339
	6	Flexible Cable (J203)	ADD1565
	7	26P Housing Wire (J111)	ADX3674
	8	Base Chassis Assy	See Contrast table (2)
	9	Terminal Panel (E)	See Contrast table (2)
	10	Floating Rubber 60	AEB1410
	11	Reuse Clamp	AEC2129
	12	Reuse Wire Saddle	AEC2134
	13	Circuit Board Spacer	AEC2150
	14	Circuit Board Spacer	AEC2151
	15	Circuit Board Spacer	AEC2152
	16	Circuit Board Spacer	AEC2163
	17	Silicon Sheet	AEH1182
	18	FAN Holder 60 A	See Contrast table (2)
	19	FAN Holder 60 B	See Contrast table (2)
	20	Insulation Sheet	AMR3891

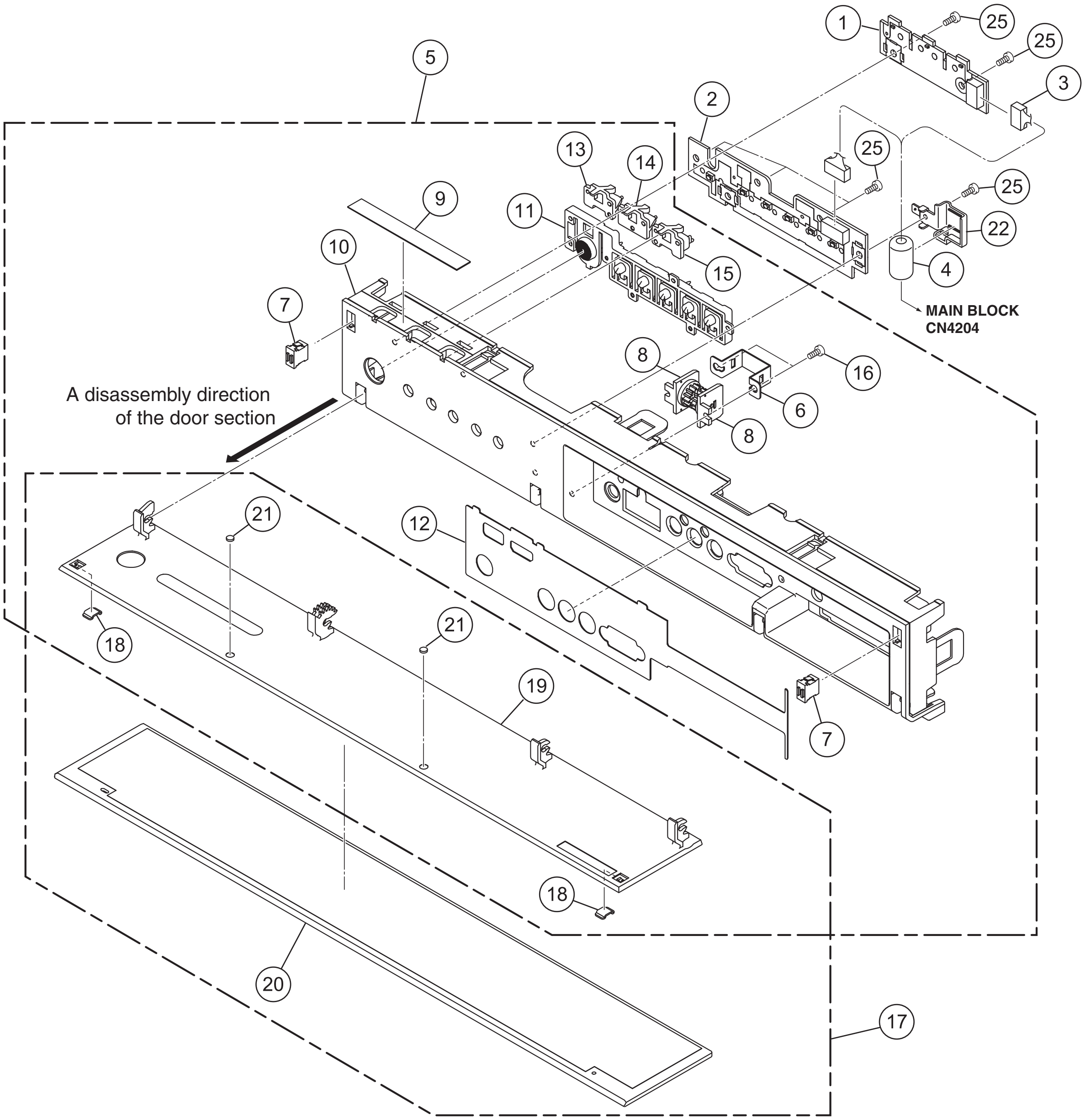
Mark	No.	Description	Part No.
⚠	21	Gasket EU	ANK1972
	22	Gasket MA	ANK1985
⚠	23	Gasket SC	ANK1989
NSP	24	Serial Label	ARW1100
	25	• • • • •	
	26	• • • • •	
	27	Hexagon Headed Screw	ABA1382
	28	Screw	ABA1383
	29	Screw	ABZ30P080FTB
	30	Screw	BBB30P080FSN
	31	Washer Faced Nut	BBN1005
	32	Screw	BBZ30P060FTB
	33	Screw	BMP40P080FSN
	34	Screw	BMZ30P060FTB
	35	Screw	BPZ30P080FTB
	36	Screw	AMZ30P060FTB
NSP	37	Gost-R Label	ARW1126

(2) CONTRAST TABLE

KRP-M01/WYSIXK5 and WYSXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	KRP-M01/WYSIXK5	KRP-M01/WYSXJ5
	8	Base Chassis Assy	ANA2186	ANA2225
	9	Terminal Panel (E)	ANC2474	ANC2480
	18	FAN Holder 60 A	AMR3845	AMR3918
	19	FAN Holder 60 B	AMR3846	AMR3919

9.4 FRONT PANEL SECTION


1
25
25
3
5
2
25
25
13
14
9
11
22
10
4
15
MAIN BLOCK
CN4204
7
8
16
A disassembly direction
of the door section
6
8
21
12
21
18
19
7
18
20
17

FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	LED Assy	AWW1442
	2	KEY Assy	AWW1445
	3	20P Housing Wire (J112)	ADX3714
⚠	4	Ferrite Core (F1002)	ATX1069
	5	F Panel Assy (EU)	AMB3114
NSP	6	Damper Holder	ANG3198
	7	Magnet Holder Assy	AEC1077
	8	Damper	AXA1022
NSP	9	Shading Sheet	AMR3903
NSP	10	Front Panel	AMB3083
NSP	11	Control Button	AAD4160
	12	Input Sheet (E)	AAL3037
NSP	13	Front LED Lens L	AMR3841
NSP	14	Front LED Lens C	AMR3904
NSP	15	Front LED Lens R	AMR3905
	16	Screw	BPZ30P080FTB
	17	Door Panel Service Kit	GXX1283
	18	Door Catcher	• • • • •
	19	Door Base	• • • • •
	20	Door Panel	• • • • •
	21	Door Cushion	AED1337
	22	Ferrite Holder	AMR3925
	23	• • • • •	
	24	• • • • •	
	25	Screw	BPZ30P080FTB

When Replacing the F PANEL Assy (E)

When replacing the F PANEL Assy (E), discard the following parts of the new Assy kit for service and use the parts from the original door panel:

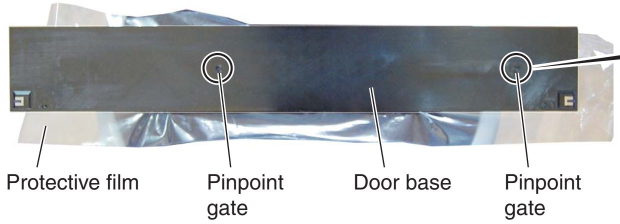
No.18	Door catcher
No.19	Door base
No.21	Door cushion

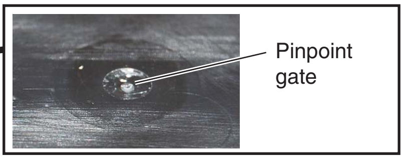
Reassembly Procedures for the Door Panel Service Kit

- Component parts of the GXX1283 Door Panel Service Kit

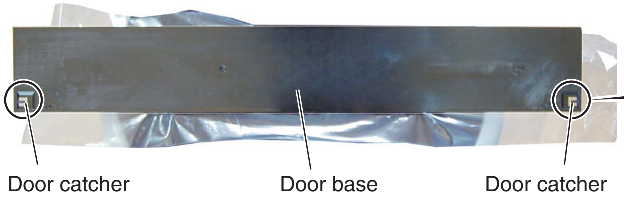
No.18	Door catcher (x2)
No.19	Door base (x1)
No.20	Door panel (x1)
No.21	Door cushion (x2)

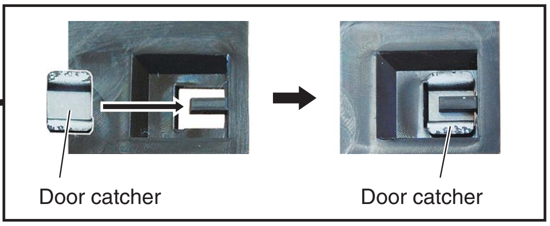
① Check that two marks of pinpoint gates do not protrude from the surface of the door base to which the door panel is to be attached.
Do NOT peel off the protective film of the door base in this step.
Peel it off after all the reassembly procedures are completed.


Protective film
Pinpoint gate
Door base
Pinpoint gate


Pinpoint gate

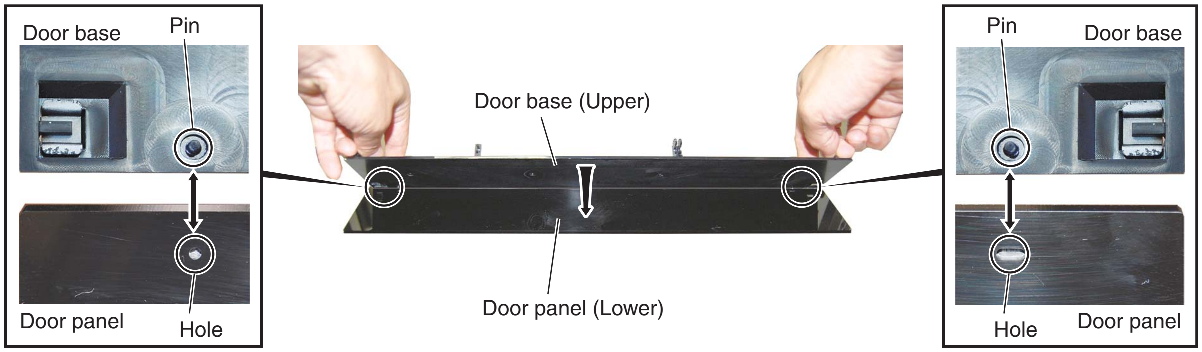
② Attach the two door catchers.


Door catcher
Door base
Door catcher

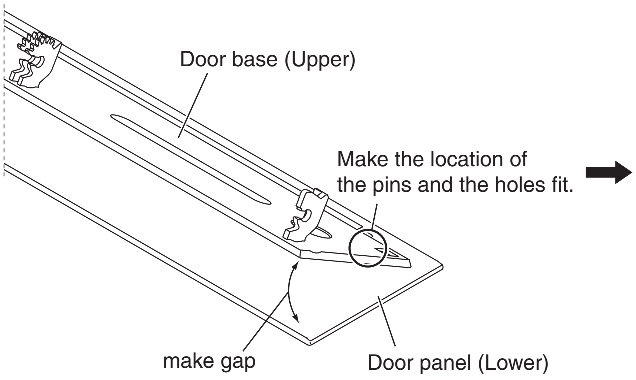

Door catcher
Door catcher

③ Peel off the separator of double-back tape on the door panel.
Do NOT peel off the protective film on the exterior surface of the door panel in this step.
Peel it off after all the reassembly procedures are completed.

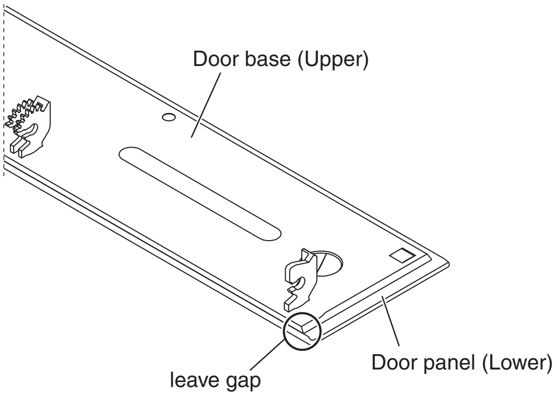
④ Align the two positioning pins of the door base with the holes in the door panel.
When positioning, leave gaps between the door panel and door base, as shown in the figure below:


Door base
Pin
Door panel
Hole
Door base (Upper)
Door panel (Lower)
Pin
Door base
Hole
Door panel

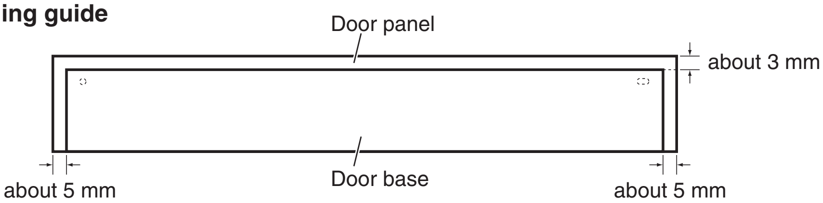
④ **-1**


Door base (Upper)
Make the location of
the pins and the holes fit.
make gap
Door panel (Lower)

④ **-2**


Door base (Upper)
leave gap
Door panel (Lower)

Positioning guide


Door panel
about 3 mm
about 5 mm
Door base
about 5 mm

⑤ Stick the door base and door panel together, by pressing them all over.

⑥ Attach the two door cushions.

Service Manual

ORDER NO.
ARP3519

MEDIA RECEIVER

KRP-M01

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
KRP-M01	LFTXJ	AC 110 V to 240 V	
KRP-M01	WAXJ5	AC 220 V to 240 V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
KRP-M01	ARP3508	BLOCK DIAGRAM, ADJUSTMENT, etc.

For SPECIFICATIONS and PANEL FACILITIES, refer to the operating instructions.

PIONEER CORPORATION 4-1, Meguro 1-chome, Meguro-ku, Tokyo 153-8654, Japan
PIONEER ELECTRONICS (USA) INC. P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
PIONEER EUROPE NV Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
PIONEER ELECTRONICS ASIACENTRE PTE. LTD. 253 Alexandra Road, #04-01, Singapore 159936

©**PIONEER CORPORATION 2008**

T-IZS-001 OCT. 2008 Printed in Japan

CONTENTS

1. BASIC ITEMS FOR SERVICE 3
  1.1 QUICK REFERENCE 3
  1.2 PCB LOCATIONS 5
2. BLOCK DIAGRAM 6
  2.1 OVERALL WIRING DIAGRAM 6
  2.2 OVERALL BLOCK DIAGRAM 8
  2.3 POWER SUPPLY BLOCK of MAIN BLOCK ASSY 10
  2.4 AV BLOCK 12
3. DIAGNOSIS 14
  3.1 POWER SUPPLY OPERATION 14
  3.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS 22
  3.3 DIAGNOSIS OF PD (POWER-DOWN) 36
  3.4 DIAGNOSIS OF SD (SHUTDOWN) 40
  3.5 NON-FAILURE INFORMATION 44
  3.6 OUTLINE OF THE OPERATION 45
  3.7 LIST OF RS-232C COMMANDS 51
  3.8 DETAILS OF RS-232C COMMANDS 53
4. SERVICE FACTORY MODE 54
  4.1 OUTLINE OF THE SERVICE FACTORY MODE 54
  4.2 DETAILS OF THE FACTORY MENU 59
5. DISASSEMBLY 71
  5.1 FLOWCHART OF REMOVAL ORDER 71
  5.2 DISASSEMBLY 72
6. EACH SETTING AND ADJUSTMENT 83
  6.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED 83
7. EXPLODED VIEWS AND PARTS LIST 86
  7.1 PACKING SECTION 86
  7.2 EXTERIOR SECTION 88
  7.3 BOTTOM SECTION 90
  7.4 FRONT PANEL SECTION 92
8. SCHEMATIC DIAGRAM 96
  8.1 MAIN BLOCK ASSY (1/24) [BOARD_IF_0 BLOCK] 96
  8.2 MAIN BLOCK ASSY (2/24) [BOARD_IF_1 BLOCK] 98
  8.3 MAIN BLOCK ASSY (3/24) [POWER_0 BLOCK] 100
  8.4 MAIN BLOCK ASSY (4/24) [POWER_1 BLOCK] 102
  8.5 MAIN BLOCK ASSY (5/24) [POWER_2 BLOCK] 104
  8.6 MAIN BLOCK ASSY (6/24) [VDEC BLOCK] 106
  8.7 MAIN BLOCK ASSY (7/24) [ADC BLOCK] 108
  8.8 MAIN BLOCK ASSY (8/24) [HDMI_RX BLOCK] 110
  8.9 MAIN BLOCK ASSY (9/24) [HDMI_SW BLOCK] 112
  8.10 MAIN BLOCK ASSY (10/24) [AV_SW BLOCK] 114
  8.11 MAIN BLOCK ASSY (11/24) [RGB_SW BLOCK] 116
  8.12 MAIN BLOCK ASSY (12/24) [MSP BLOCK] 118
  8.13 MAIN BLOCK ASSY (13/24) [A_TUNER BLOCK] 120
  8.14 MAIN BLOCK ASSY (14/24) [VBI_SLICER BLOCK] 122
  8.15 MAIN BLOCK ASSY (15/24) [USB BLOCK] 124
  8.16 MAIN BLOCK ASSY (16/24) [AV_IO_0 BLOCK] 126
  8.17 MAIN BLOCK ASSY (17/24) [AV_IO_1 BLOCK] 128
  8.18 MAIN BLOCK ASSY (18/24) [ARIA_0 BLOCK] 130
  8.19 MAIN BLOCK ASSY (19/24) [ARIA_1 BLOCK] 132
  8.20 MAIN BLOCK ASSY (20/24) [ARIA_DDR BLOCK] 134
  8.21 MAIN BLOCK ASSY (21/24) [IF_UCOM BLOCK] 136
  8.22 MAIN BLOCK ASSY (22/24) [EMMA2 BLOCK] 138
  8.23 MAIN BLOCK ASSY (23/24) [EMMA2_MEM BLOCK] 140
  8.24 MAIN BLOCK ASSY (24/24) [DP_TX BLOCK] 142
  8.25 FRONT_HDM_USB ASSY 144
  8.26 REAR IO ASSY 146
  8.27 LED AND KEY ASSYS 148
  8.28 FRONT IO ASSY 150
  8.29 VOLTAGES AND WAVEFORMS 152
9. PCB CONNECTION DIAGRAM 154
  9.1 MAIN BLOCK AND FRONT_HDM_USB ASSYS 154
  9.2 REAR IO, FRONT IO, LED AND KEY ASSYS 158
10. PCB PARTS LIST 160

1. BASIC ITEMS FOR SERVICE

1.1 QUICK REFERENCE

Quick Reference upon Service Visit ①
Notes, PD/SD diagnosis, and methods for various settings

Notes when visiting for service

1. Notes when disassembling/reassembling

① **Rear case**
When reassembling the rear case, the screws must be tightened in a specific order. Be careful not to tighten them in the wrong order forcibly. For details, see "Rear Case" in "5. DISASSEMBLY".

② **Attaching screws for the HDMI and system cable terminals**
When attaching the HDMI and system cable terminals after replacing the Assembly, secure the terminals manually with a screwdriver, but not with an electric screwdriver.
If you tighten the screws too tightly with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be untightened/tightened any more.

2. On parts replacement

① **How to discharge before replacing the Assys**
A charge of significant voltage remains in the Plasma Panel even after the power is turned off. Safely discharge the panel before replacement of parts, in either manner indicated below:
A: Let the panel sit at least for 3 minutes after the power is turned off.
B: Turn the Large Signal System off before the power is turned off then, after 1 minute, turn the power off.
For details, see "5.6 [1] PANEL DRIVE-POWER ON/OFF FUNCTION".

② **On the settings after replacement of the Assys**
Some boards need settings made after replacement of the Assys.
For details, see "8. EACH SETTING AND ADJUSTMENT".

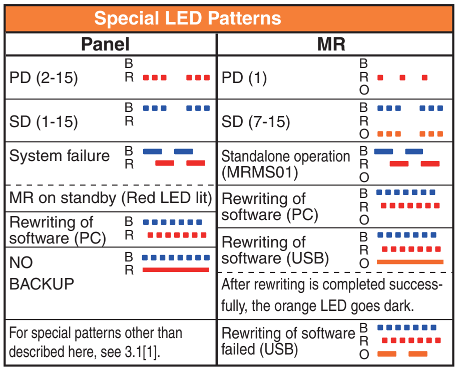
3. On various settings

① **Setting in Factory mode**
After a Mask indication into the panel is performed, be sure to set the Mask setting to "OFF" then exit Factory mode.

PD	
No. of LEDs flashing	MR
Red 1	MR_POWER
	Panel
Red 2	POWER
Red 3	SCAN
Red 4	SCN-5V
Red 6	Y-DCDC
Red 7	Y-SUS
Red 8	ADRS
Red 10	X-DCDC
Red 11	X-SUS
Red 12	DIG-DCDC
Red 15	UNKNOWN

SD		
Panel	No. of LEDs flashing	MR
SQ_LSI	Blue 1	
Module Device communication	Blue 2	
DIGITAL-RST2	Blue 3	
Panel temperature	Blue 4	
Audio	Blue 5	Audio (MSP)
Module microcomputer communication	Blue 6	
	Blue 7	Main 3-wire serial communication
Panel main IIC communication	Blue 8	Main IIC communication
	Blue 9	Main microcomputer communication
FAN	Blue 10	FAN
Unit high temperature	Blue 11	Unit high temperature
	Blue 12	D-TUNER communication
DC-IN	Blue 13	RST2/RST4
Panel main EEPROM	Blue 15	Main EEPROM

Special LED Patterns



Panel	MR
PD (2-15) B R	PD (1) B R O
SD (1-15) B R	SD (7-15) B R O
System failure B R	Standalone operation (MRMS01) B R O
MR on standby (Red LED lit)	Rewriting of software (PC) B R O
Rewriting of software (PC) B R	Rewriting of software (USB) B R O
NO BACKUP B R	After rewriting is completed successfully, the orange LED goes dark.
For special patterns other than described here, see 3.1[1].	Rewriting of software failed (USB) B R O

Commands for shifting between standalone and system operations

Panel	MR
To Standalone operation: SYSS00	To Standalone operation: MRMS01
To System operation: SYSS01	To System operation: MRMS00

Note: After issuing a command, unplug then again plug in the AC power cord.

Subcategory confirmation procedure

If the DISPLAY key is pressed during shutdown, the orange LED flashes. (MR only)

SD		SD Subcategory
8	1	Tuner 1
	2	MSP/MAP
	3	AV Switch
	4	RGB Switch
	5	Main VDEC
	6	VDEC-SDRAM
	7	AD/PLL
	8	HDMI
	9	Display Port Tx
13	1	RST2
	2	RST4

Other SD main categories have subcategories.
For details, see 3.3 [2].

How to locate several items on the Factory menu

{ } : Item on the Factory menu
[ ] : Key on the remote control unit
" " : Screen indication

1. Confirmation of accumulated power-on time and power-on count
Select {INFORMATION} then {HOUR METER}.
(After entering Factory mode, press [⬇] four times.)

2. Confirmation of the Power-down and Shutdown histories

① **Panel system**
PD: Select {PANEL FACTORY} then {POWER DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] two times.)
SD: Select {PANEL FACTORY} then {SHUT DOWN}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] three times.)

② **MR section**
Select {INFORMATION} then {MAIN NG}.
(After entering Factory mode, press [⬇] three times.)

③ **Panel main section**
Select {PANEL MAIN FACTORY} then {PM NG INFO}.
After entering Factory mode, press [MUTING] twice, then press [ENTER/SET].

3. How to display the Mask indication

① **Mask indication in the panel side**
1. Select {PANEL FACTORY} then {RASTER MASK SETUP}.
(After entering Factory mode, press [MUTING] once, press [ENTER/SET], then press [⬇] 8 times.)
2. Press [ENTER/SET], then select a Mask indication, using [⬆] or [⬇].

Adjustments and Settings after replacement of the Assys (Procedures in Factory mode)

1. DIGITAL Assy (Panel): Transfer of backup data
① Select {PANEL FACTORY}, {ETC}, then {BACKUP DATA}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, then press [ENTER/SET].)
② Select {TRANSFER}, using [➡], then hold [ENTER/SET] pressed for at least 5 seconds.
③ After transfer of backup data is completed, {ETC} is automatically selected, and the LED on the front panel returns to normal lighting.

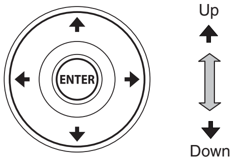
2. MAIN BLOCK Assy (MR), MAIN Assy (Panel): Execution of FINAL SETUP.
① Select {INITIALIZE} then {FINAL SETUP}, then press [ENTER/SET]. (After entering Factory mode, press [MUTING] four times, then press [⬇] once.)
② Select "YES", using [➡]. Then hold [ENTER/SET] pressed for at least 5 seconds.
③ After "FINAL SETUP IS COMPLETE" is displayed on the screen, turn the POWER switch of the main unit off.

3. POWER SUPPLY Unit (Panel): Clearance of the accumulated power-on count and maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {P COUNT INFO}. (After entering Factory mode, press [MUTING] once, press [ENTER/SET], press [⬇] seven times, press [ENTER/SET], then press [⬇] six times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected. Clear the maximum temperature value (MAX TEMP) in the same manner.

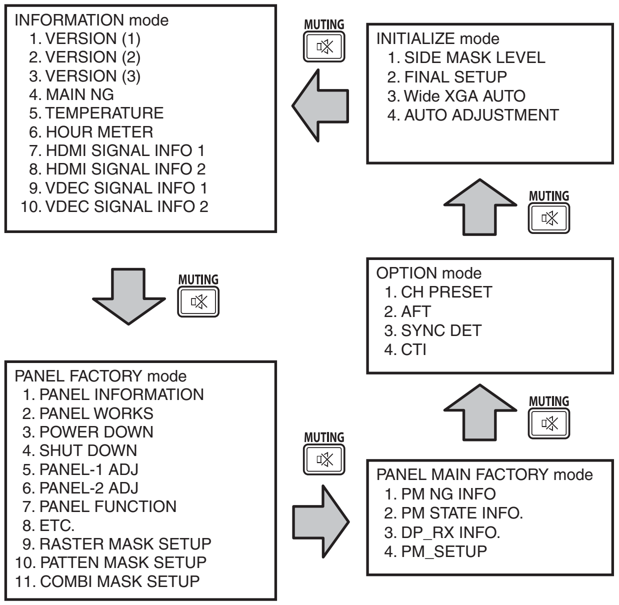
4. Other Assys (Panel): Clearance of the maximum temperature value
① Select {PANEL FACTORY}, {ETC}, then {MAX TEMP}. (After entering Factory mode, press [MUTING] once, press [ENTER], press [⬇] seven times, press [ENTER/SET], then press [⬇] seven times.)
② Press [➡] to select "CLEAR". Hold [ENTER/SET] pressed for at least 5 seconds. After clearance is completed, "ETC" is automatically selected.

Quick Reference upon Service Visit ②
Mode transition and structure of layers in Service Factory mode

Mode transition in Service Factory mode



- To shift to another mode, press [MUTING].
- To shift to another item in a specific mode, press [🡅] or [🡇].
- To shift to the next nested layer below for an item with a "(+)" indication, press [ENTER/SET]. To return to the next nested layer above, also press [ENTER/SET].



INFORMATION mode
1. VERSION (1)
2. VERSION (2)
3. VERSION (3)
4. MAIN NG
5. TEMPERATURE
6. HOUR METER
7. HDMI SIGNAL INFO 1
8. HDMI SIGNAL INFO 2
9. VDEC SIGNAL INFO 1
10. VDEC SIGNAL INFO 2

PANEL FACTORY mode
1. PANEL INFORMATION
2. PANEL WORKS
3. POWER DOWN
4. SHUT DOWN
5. PANEL-1 ADJ
6. PANEL-2 ADJ
7. PANEL FUNCTION
8. ETC.
9. RASTER MASK SETUP
10. PATTEN MASK SETUP
11. COMBI MASK SETUP

PANEL MAIN FACTORY mode
1. PM NG INFO
2. PM STATE INFO.
3. DP_RX INFO.
4. PM_SETUP

OPTION mode
1. CH PRESET
2. AFT
3. SYNC DET
4. CTI

INITIALIZE mode
1. SIDE MASK LEVEL
2. FINAL SETUP
3. Wide XGA AUTO
4. AUTO ADJUSTMENT

Structure of Layers in Service Factory Mode

INFORMATION mode	
1. VERSION (1)	The software versions for each microcomputer
2. VERSION (2)	The Flash memory versions for each device
3. VERSION (3)	The software versions for display microcomputer
4. MAIN NG	The shutdown message ID/event times (Going Clear mode by [ENTER/SET] key)
4-1. CLEAR	Select Yes by [➡] key ➡ pushing and hold [ENTER/SET] key
5. TEMPERATURE	The temperature/FAN rotating status
6. HOUR METER	The HOUR METER/P-COUNT information
7. HDMI SIGNAL INFO 1	The information of HDMI information files
8. HDMI SIGNAL INFO 2	The information of HDMI information files
9. VDEC SIGNAL INFO 1	The signal information of VDEC
10. VDEC SIGNAL INFO 2	The signal information of VDEC
PANEL FACTORY mode	Refer to [PANEL FACTORY MODE]
PANEL MAIN FACTORY mode	
1. PM NG INFO.	Shutdown history of the panel main
2. PM STATE INFO.	The temperature/FAN rotating status/Room Light Sensor
3. DP_RX INFO.	Indication of the DPRx ID
4. PM_SETUP	Select the bezel color and clear the shutdown history of the panel main
OPTION mode	
1. CH PRESET	For production line use
2. AFT	For production line use
3. SYNC DET	For technical analysis
4. CTI	For technical analysis
INITIALIZE mode	
1. SIDE MASK LEVEL	For factory use
1-1. SIDE MASK LEVEL	
2. FINAL SETUP	Set to Factory default settings (it should perform after replacing a MAIN Assy)
2-1. DATA RESET	
3. Wide XGA AUTO	For technical analysis
4. AUTO ADJUSTMENT	

Structure of Layers in Panel Factory Mode 1

1. PANEL INFORMATION	Version indication of the panel
2. PANEL WORKS	Indications of the accumulated power-on time and power-on count of the panel
3. POWER DOWN	Indication of the Power-down history
4. SHUT DOWN	Indication of the Shutdown history
5. PANEL-1 ADJ (+)	
1. VOL SUS	Settings required after replacement of the panel
2. VOL OFFSET	
• • • • •	
10. RESET1ST_KSB	Items for factory use
• • • • •	
25. SUS FREQ	For AM noise prevention (Depending on the mode, brightness of the screen changes.) For confirmation of the result of the setting change, the unit must be turned off then back on again.
6. PANEL-2 ADJ (+)	
1. R-HIGH	For the WB adjustment of the panel and ABL adjustment. A setting table is available for each signal frequency.
2. G-HIGH	
• • • • •	
6. B-LOW	
7. ABL	
7. PANEL FUNCTION (+)	
1. R-LEVEL	Items for factory use
• • • • •	

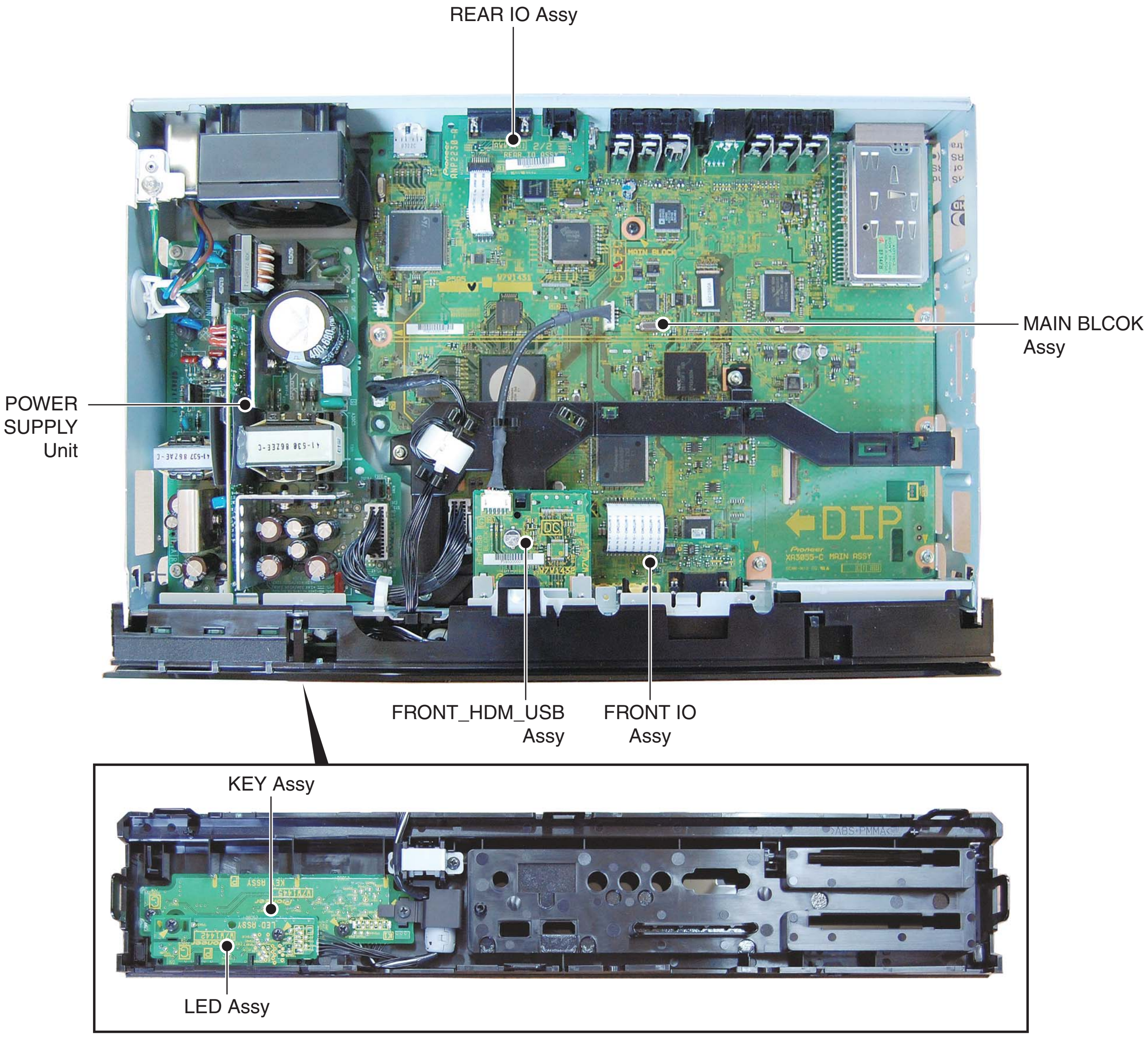
To "Structure of Layers in Panel Factory Mode 2"

Structure of Layers in Panel Factory Mode 2

8. ETC (+)	
1. BACKUP DATA	For transferring backup data (after replacement of the DIGITAL Assy)
2. DIGITAL EEPROM	Change the adjustment status of the DIGITAL Assy.
3. PD INFO.	For clearance of data for the corresponding items. The clearing method is the same: Select "CLEAR", then hold [ENTER/SET] pressed for at least 5 seconds.
4. SD INFO.	
5. HR-MTR INFO.	
6. PM/B1-B5	
7. P COUNT INFO.	
8. MAX TEMP.	
9. MIRROR	Switch the Mirror display mode.
10. CLS	Switch the function when checking the color sensor level.
9. RASTER MASK SETUP (+)	
1. MASK OFF	For use while the Raster Mask is displayed. Use [🡅] or [🡇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. RST MASK 01	
• • • • •	
10. PATTERN MASK SETUP (+)	
1. MASK OFF	For use while the Pattern Mask is displayed. Use [🡅] or [🡇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. PTN MASK 01	
• • • • •	
11. COMBI MASK SETUP (+)	
1. MASK OFF	For use while the Combination Mask is displayed. Use [🡅] or [🡇] to select the type of mask. Use [➡] or [⬅] to select the sequence.
2. CMB MASK 01	
• • • • •	

1.2 PCB LOCATIONS

Note: The wiring shown in the photo is different from the actual wiring, because the product in the photo is a prototype. Upon servicing, be sure to restore the original wiring of the unit after repair work.


REAR IO Assy
MAIN BLCOK Assy
POWER SUPPLY Unit
FRONT_HDM_USB Assy
FRONT IO Assy
KEY Assy
LED Assy

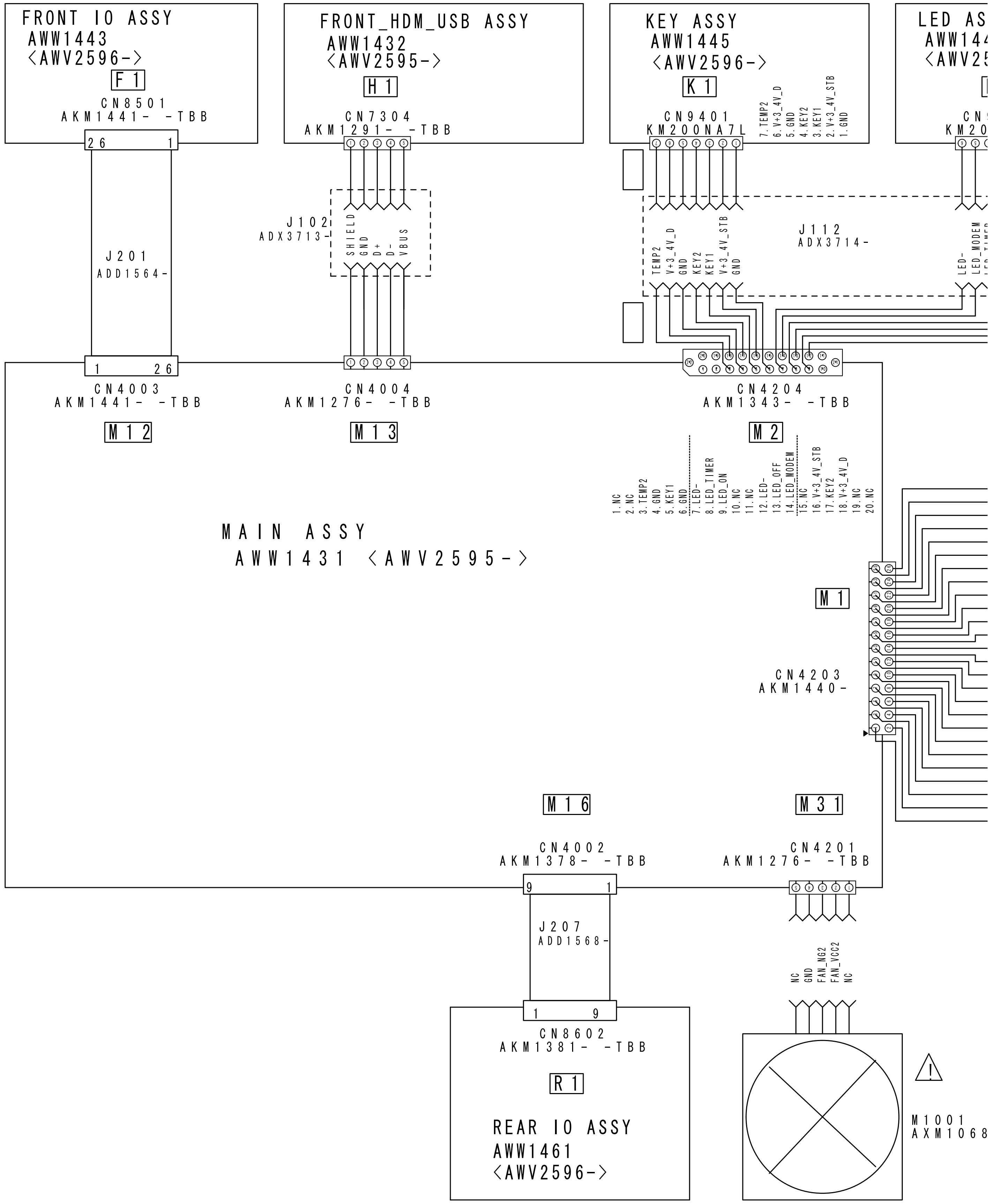
NOTES: ● *Parts marked by “NSP” are generally unavailable because they are not in our Master Spare Parts List.*
● *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*

LIST OF ASSEMBLIES

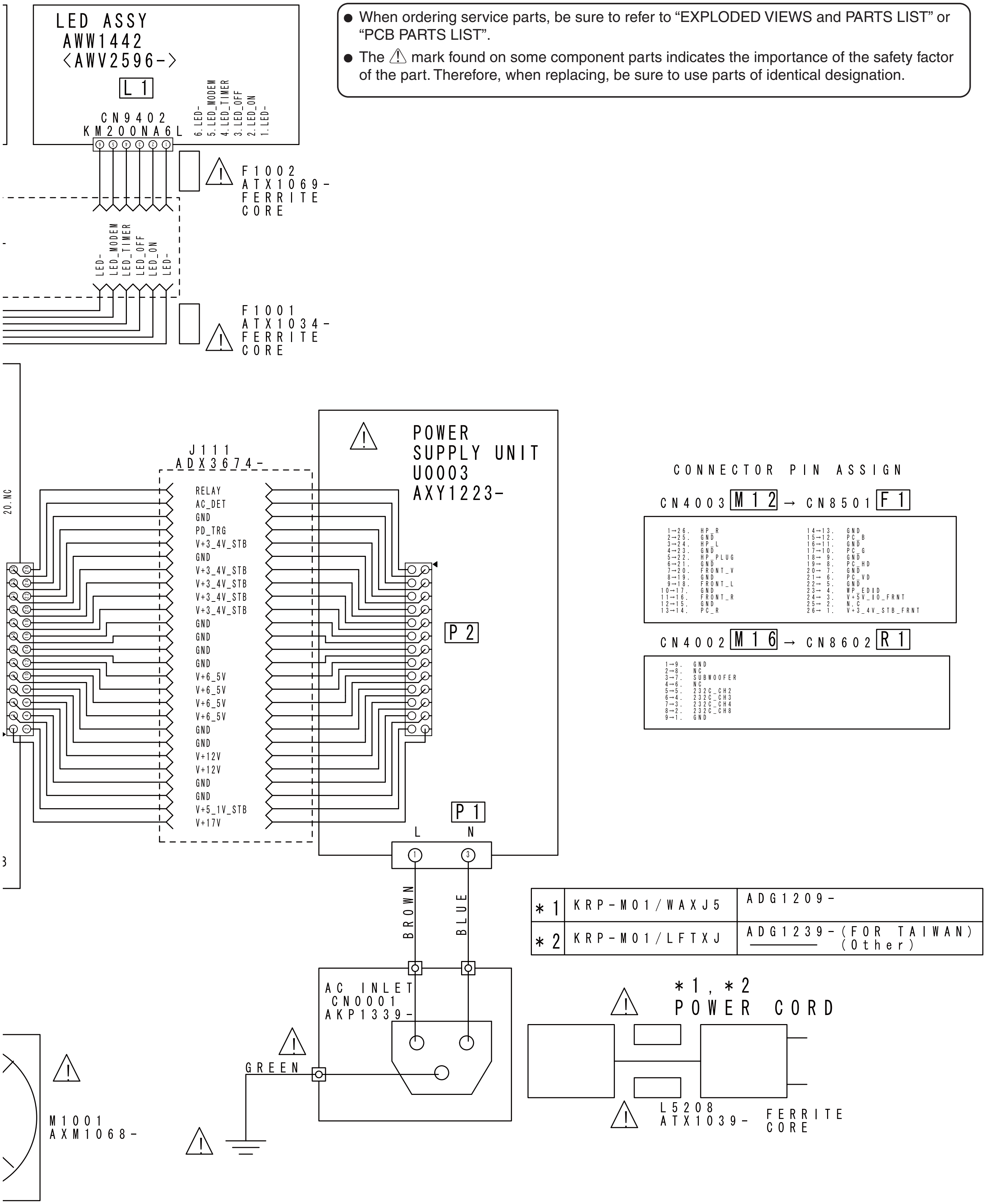
Mark	No.	Description	Part No.
NSP	1..	MAIN ASSY	AWV2595
	2..	FRONT_HDM_USB ASSY	AWW1432
	2..	MAIN BLOCK ASSY	AWW1431
NSP	1..	FUKUGO ASSY	AWV2596
	2..	REAR IO ASSY	AWW1461
	2..	LED ASSY	AWW1442
	2..	FRONT IO ASSY	AWW1443
	2..	KEY ASSY	AWW1445
⚠	1..	POWER SUPPLY UNIT	AXY1223

2. BLOCK DIAGRAM

2.1 OVERALL WIRING DIAGRAM


FRONT IO ASSY
AWW1443
<AWV2596->
F1
CN8501
AKM1441- -TBB
26 1
J201
ADD1564-
1 26
CN4003
AKM1441- -TBB
M12
FRONT_HDM_USB ASSY
AWW1432
<AWV2595->
H1
CN7304
AKM1291- -TBB
J102
ADX3713-
SHIELD
GND
D+
D-
VBUS
CN4004
AKM1276- -TBB
M13
KEY ASSY
AWW1445
<AWV2596->
K1
CN9401
KM200NA7L
7.TEMP2
6.V+3_4V_D
5.GND
4.KEY2
3.KEY1
2.V+3_4V_STB
1.GND
J112
ADX3714-
TEMP2
V+3_4V_D
GND
KEY2
KEY1
V+3_4V_STB
GND
LED-
LED_MODEM
LED AS
AWW144
<AWV25
CN
KM20
CN4204
AKM1343- -TBB
M2
1.NC
2.NC
3.TEMP2
4.GND
5.KEY1
6.GND
7.LED-
8.LED_TIMER
9.LED_ON
10.NC
11.NC
12.LED-
13.LED_OFF
14.LED_MODEM
15.NC
16.V+3_4V_STB
17.KEY2
18.V+3_4V_D
19.NC
20.NC
MAIN ASSY
AWW1431 <AWV2595->
M1
CN4203
AKM1440-
M16
M31
CN4002
AKM1378- -TBB
9 1
J207
ADD1568-
1 9
CN8602
AKM1381- -TBB
R1
REAR IO ASSY
AWW1461
<AWV2596->
CN4201
AKM1276- -TBB
NC
GND
FAN_NG2
FAN_VCC2
NC
M1001
AXM1068

- When ordering service parts, be sure to refer to “EXPLODED VIEWS and PARTS LIST” or “PCB PARTS LIST”.
- The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.


LED ASSY
AWW1442
<AWV2596->
L1
CN9402
KM200NA6L
6.LED-
5.LED_MODEM
4.LED_TIMER
3.LED_OFF
2.LED_ON
1.LED-
F1002
ATX1069-
FERRITE
CORE
LED-
LED_MODEM
LED_TIMER
LED_OFF
LED_ON
LED-
F1001
ATX1034-
FERRITE
CORE
20.NC
J111
ADX3674-
RELAY
AC_DET
GND
PD_TRG
V+3_4V_STB
GND
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
V+3_4V_STB
GND
GND
GND
GND
V+6_5V
V+6_5V
V+6_5V
V+6_5V
GND
GND
V+12V
V+12V
GND
GND
V+5_1V_STB
V+17V
POWER
SUPPLY UNIT
U0003
AXY1223-
P2
P1
L
N
BROWN
BLUE
AC INLET
CN0001
AKP1339-
GREEN
M1001
AXM1068-
*1, *2
POWER CORD
L5208
ATX1039-
FERRITE
CORE

CONNECTOR PIN ASSIGN

CN4003 M12 → CN8501 F1

1→26.	HP_R	14→13.	GND
2→25.	GND	15→12.	PC_B
3→24.	HP_L	16→11.	GND
4→23.	GND	17→10.	PC_G
5→22.	HP_PLUG	18→ 9.	GND
6→21.	GND	19→ 8.	PC_HD
7→20.	FRONT_V	20→ 7.	GND
8→19.	GND	21→ 6.	PC_VD
9→18.	FRONT_L	22→ 5.	GND
10→17.	GND	23→ 4.	WP_EDID
11→16.	FRONT_R	24→ 3.	V+5V_IO_FRNT
12→15.	GND	25→ 2.	N.C
13→14.	PC_R	26→ 1.	V+3_4V_STB_FRNT

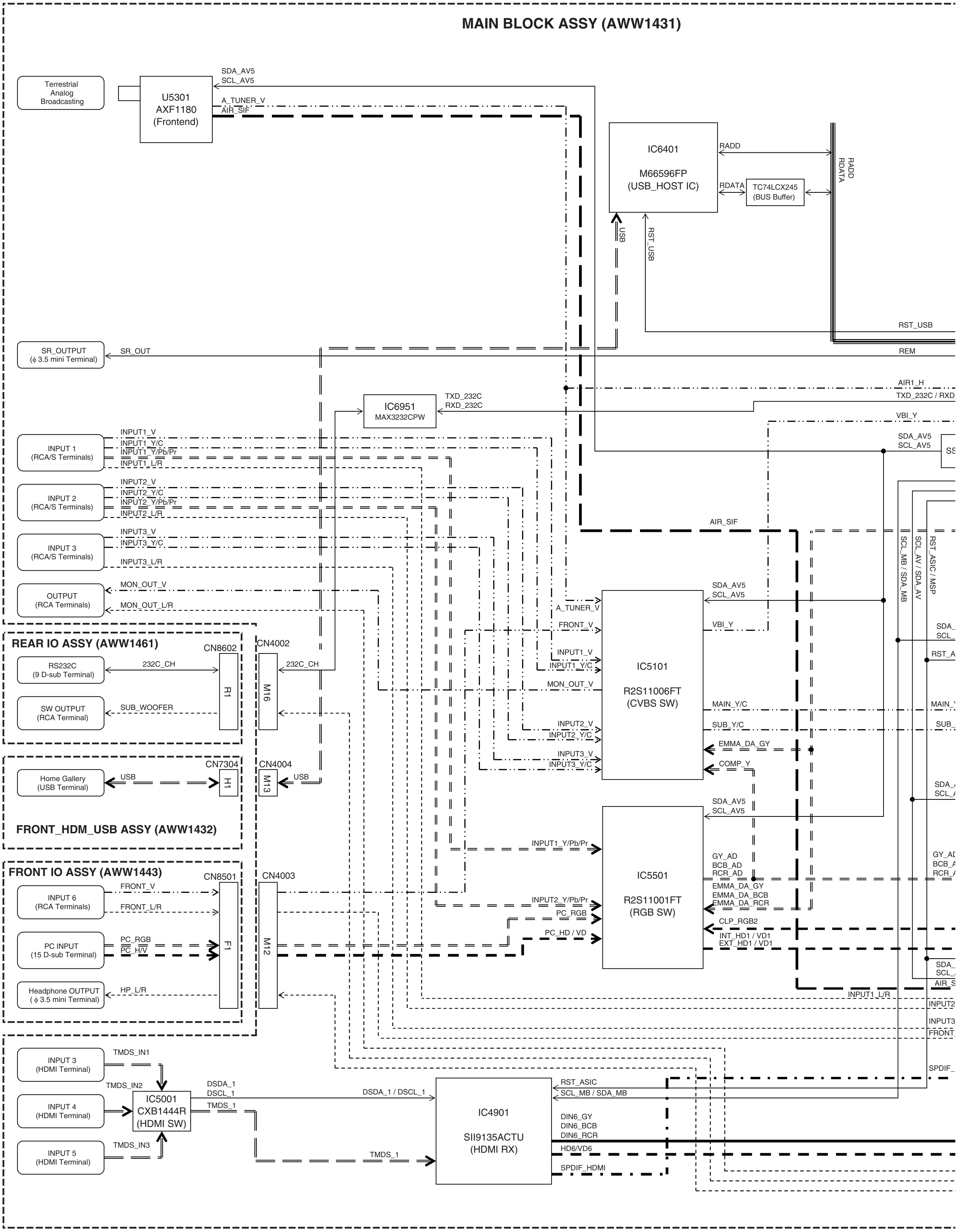
CN4002 M16 → CN8602 R1

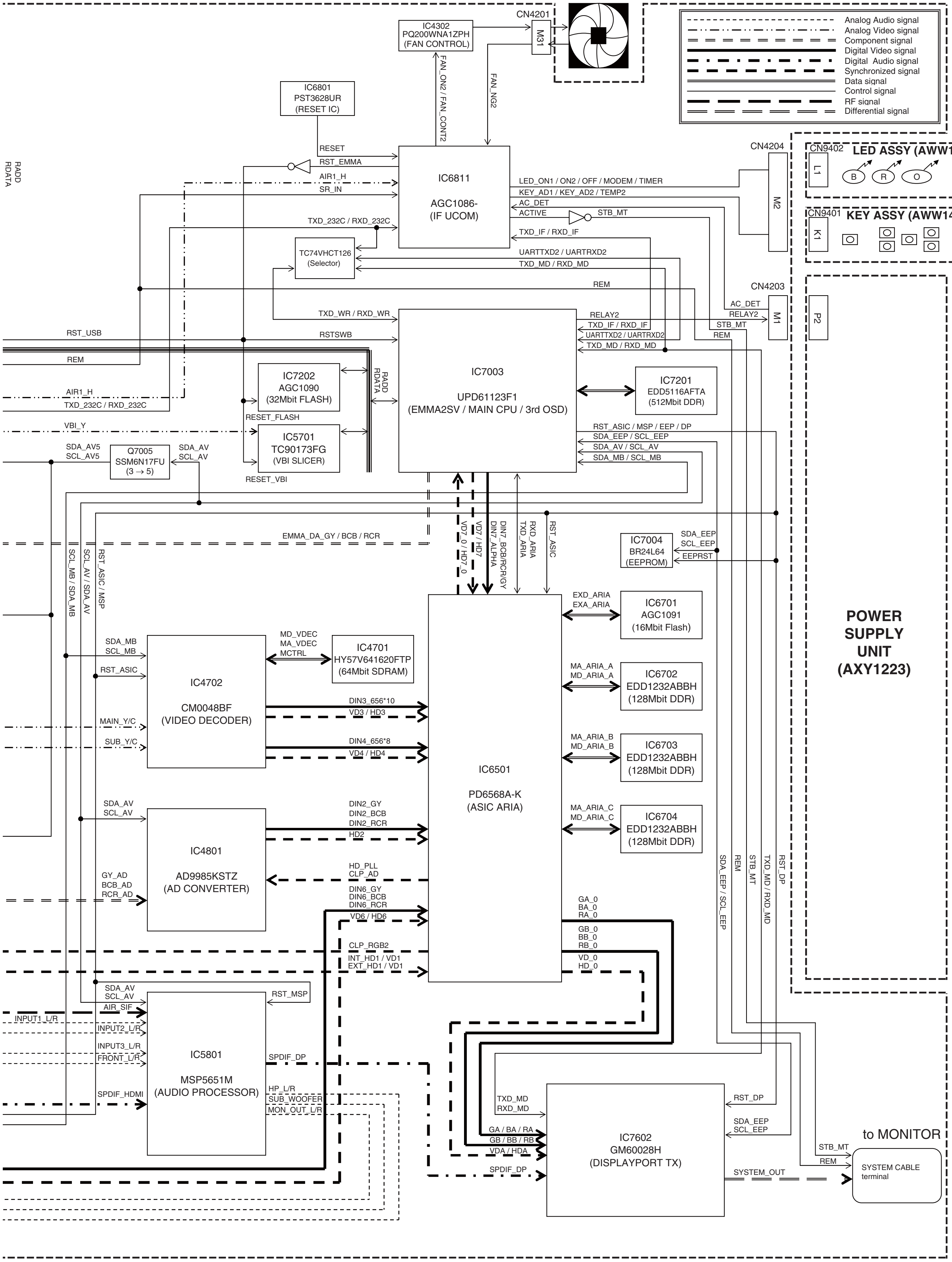
1→9.	GND
2→8.	NC
3→7.	SUBWOOFER
4→6.	NC
5→5.	232C_CH2
6→4.	232C_CH3
7→3.	232C_CH4
8→2.	232C_CH8
9→1.	GND

*1	KRP-M01/WAXJ5	ADG1209-
*2	KRP-M01/LFTXJ	ADG1239-(FOR TAIWAN) (Other)

OVERALL DIAGRAM
KRP-M01

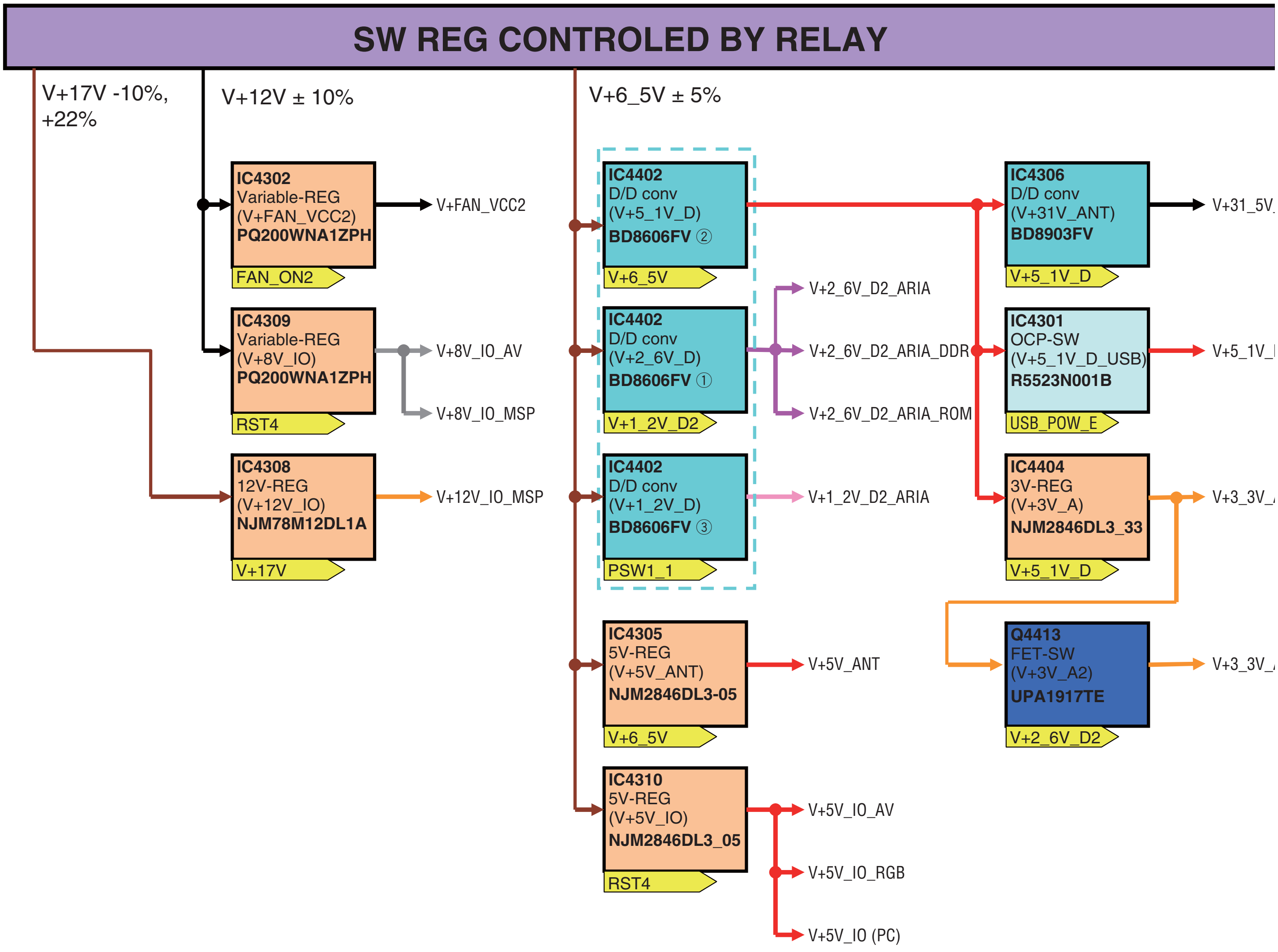
2.2 OVERALL BLOCK DIAGRAM

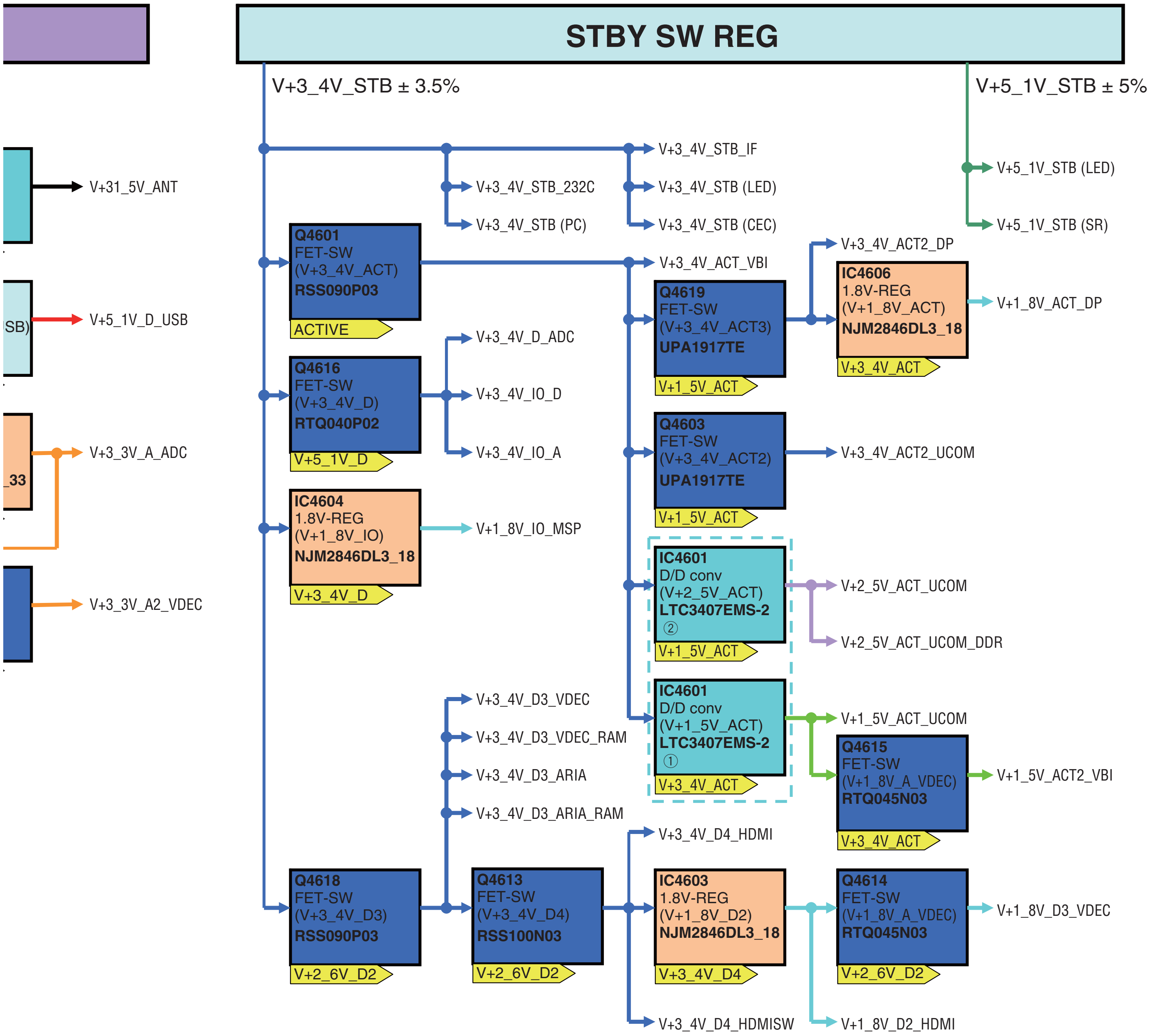

MAIN BLOCK ASSY (AWW1431)
Terrestrial Analog Broadcasting
U5301
AXF1180
(Frontend)
SDA_AV5
SCL_AV5
A_TUNER_V
AIR_SIF
IC6401
M66596FP
(USB_HOST IC)
RADD
RDATA
TC74LCX245
(BUS Buffer)
RADD
RDATA
USB
RST_USB
RST_USB
SR_OUTPUT
(ϕ 3.5 mini Terminal)
SR_OUT
REM
AIR1_H
TXD_232C / RXD
IC6951
MAX3232CPW
TXD_232C
RXD_232C
VBI_Y
SDA_AV5
SCL_AV5
SS
INPUT 1
(RCA/S Terminals)
INPUT1_V
INPUT1_Y/C
INPUT1_Y/Pb/Pr
INPUT1_L/R
INPUT 2
(RCA/S Terminals)
INPUT2_V
INPUT2_Y/C
INPUT2_Y/Pb/Pr
INPUT2_L/R
INPUT 3
(RCA/S Terminals)
INPUT3_V
INPUT3_Y/C
INPUT3_L/R
AIR_SIF
SCL_MB / SDA_MB
SCL_AV / SDA_AV
RST_ASIC / MSP
OUTPUT
(RCA Terminals)
MON_OUT_V
MON_OUT_L/R
SDA_AV5
SCL_AV5
A_TUNER_V
FRONT_V
VBI_Y
SDA_
SCL_
RST_A
REAR IO ASSY (AWW1461)
CN8602
CN4002
RS232C
(9 D-sub Terminal)
232C_CH
R1
M16
232C_CH
INPUT1_V
INPUT1_Y/C
IC5101
R2S11006FT
(CVBS SW)
MON_OUT_V
SW OUTPUT
(RCA Terminal)
SUB_WOOFER
MAIN_Y/C
MAIN_
SUB_Y/C
SUB_
INPUT2_V
INPUT2_Y/C
EMMA_DA_GY
INPUT3_V
INPUT3_Y/C
COMP_Y
CN7304
CN4004
Home Gallery
(USB Terminal)
USB
H1
M13
USB
FRONT_HDM_USB ASSY (AWW1432)
SDA_AV5
SCL_AV5
SDA_
SCL_
INPUT1_Y/Pb/Pr
FRONT IO ASSY (AWW1443)
CN8501
CN4003
GY_AD
BCB_AD
RCR_AD
GY_AD
BCB_
RCR_
INPUT 6
(RCA Terminals)
FRONT_V
FRONT_L/R
IC5501
R2S11001FT
(RGB SW)
EMMA_DA_GY
EMMA_DA_BCB
EMMA_DA_RCR
INPUT2_Y/Pb/Pr
PC_RGB
CLP_RGB2
PC INPUT
(15 D-sub Terminal)
PC_RGB
PC_H/V
F1
M12
PC_HD / VD
INT_HD1 / VD1
EXT_HD1 / VD1
SDA_
SCL_
AIR_S
Headphone OUTPUT
(ϕ 3.5 mini Terminal)
HP_L/R
INPUT1_L/R
INPUT2
INPUT3
FRONT
INPUT 3
(HDMI Terminal)
TMDS_IN1
SPDIF_
TMDS_IN2
IC5001
CXB1444R
(HDMI SW)
DSDA_1
DSCL_1
TMDS_1
DSDA_1 / DSCL_1
IC4901
SII9135ACTU
(HDMI RX)
RST_ASIC
SCL_MB / SDA_MB
INPUT 4
(HDMI Terminal)
DIN6_GY
DIN6_BCB
DIN6_RCR
HD6/VD6
INPUT 5
(HDMI Terminal)
TMDS_IN3
TMDS_1
SPDIF_HDMI
A
B
C
D
E
F


Analog Audio signal
Analog Video signal
Component signal
Digital Video signal
Digital Audio signal
Synchronized signal
Data signal
Control signal
RF signal
Differential signal
CN4201
M31
IC4302
PQ200WNA1ZPH
(FAN CONTROL)
FAN_ON2 / FAN_CONT2
FAN_NG2
IC6801
PST3628UR
(RESET IC)
RESET
RST_EMMA
AIR1_H
SR_IN
TXD_232C / RXD_232C
IC6811
AGC1086-
(IF UCOM)
LED_ON1 / ON2 / OFF / MODEM / TIMER
KEY_AD1 / KEY_AD2 / TEMP2
AC_DET
ACTIVE
STB_MT
TXD_IF / RXD_IF
UARTTXD2 / UARTRXD2
TXD_MD / RXD_MD
REM
CN4204
M2
CN9402
L1
LED ASSY (AWW1442)
B
R
O
CN9401
K1
KEY ASSY (AWW1445)
CN4203
M1
AC_DET
RELAY2
STB_MT
REM
P2
RADD
RDATA
TC74VHCT126
(Selector)
TXD_WR / RXD_WR
RST_USB
RSTSWB
REM
AIR1_H
TXD_232C / RXD_232C
VBI_Y
IC7202
AGC1090
(32Mbit FLASH)
RESET_FLASH
IC5701
TC90173FG
(VBI SLICER)
RESET_VBI
RADD
RDATA
IC7003
UPD61123F1
(EMMA2SV / MAIN CPU / 3rd OSD)
RELAY2
TXD_IF / RXD_IF
UARTTXD2 / UARTRXD2
TXD_MD / RXD_MD
IC7201
EDD5116AFTA
(512Mbit DDR)
RST_ASIC / MSP / EEP / DP
SDA_EEP / SCL_EEP
SDA_AV / SCL_AV
SDA_MB / SCL_MB
SDA_AV5
SCL_AV5
Q7005
SSM6N17FU
(3 → 5)
SDA_AV
SCL_AV
EMMA_DA_GY / BCB / RCR
SCL_MB / SDA_MB
SCL_AV / SDA_AV
RST_ASIC / MSP
VD7_0 / HD7_0
VD7 / HD7
DIN7_BCB/RCR/GY
DIN7_ALPHA
RXD_ARIA
TXD_ARIA
RST_ASIC
IC7004
BR24L64
(EEPROM)
SDA_EEP
SCL_EEP
EEPRST
EXD_ARIA
EXA_ARIA
IC6701
AGC1091
(16Mbit Flash)
POWER
SUPPLY
UNIT
(AXY1223)
SDA_MB
SCL_MB
RST_ASIC
MAIN_Y/C
SUB_Y/C
IC4702
CM0048BF
(VIDEO DECODER)
MD_VDEC
MA_VDEC
MCTRL
IC4701
HY57V641620FTP
(64Mbit SDRAM)
DIN3_656*10
VD3 / HD3
DIN4_656*8
VD4 / HD4
IC6501
PD6568A-K
(ASIC ARIA)
MA_ARIA_A
MD_ARIA_A
IC6702
EDD1232ABBH
(128Mbit DDR)
MA_ARIA_B
MD_ARIA_B
IC6703
EDD1232ABBH
(128Mbit DDR)
MA_ARIA_C
MD_ARIA_C
IC6704
EDD1232ABBH
(128Mbit DDR)
SDA_AV
SCL_AV
IC4801
AD9985KSTZ
(AD CONVERTER)
GY_AD
BCB_AD
RCR_AD
DIN2_GY
DIN2_BCB
DIN2_RCR
HD2
HD_PLL
CLP_AD
DIN6_GY
DIN6_BCB
DIN6_RCR
VD6 / HD6
CLP_RGB2
INT_HD1 / VD1
EXT_HD1 / VD1
GA_0
BA_0
RA_0
GB_0
BB_0
RB_0
VD_0
HD_0
SDA_EEP / SCL_EEP
REM
STB_MT
TXD_MD / RXD_MD
RST_DP
SDA_AV
SCL_AV
AIR_SIF
INPUT1_L/R
INPUT2_L/R
INPUT3_L/R
FRONT_L/R
SPDIF_HDMI
RST_MSP
IC5801
MSP5651M
(AUDIO PROCESSOR)
SPDIF_DP
HP_L/R
SUB_WOOFER
MON_OUT_L/R
TXD_MD
RXD_MD
GA / BA / RA
GB / BB / RB
VDA / HDA
SPDIF_DP
IC7602
GM60028H
(DISPLAYPORT TX)
RST_DP
SDA_EEP
SCL_EEP
SYSTEM_OUT
to MONITOR
STB_MT
REM
SYSTEM CABLE
terminal

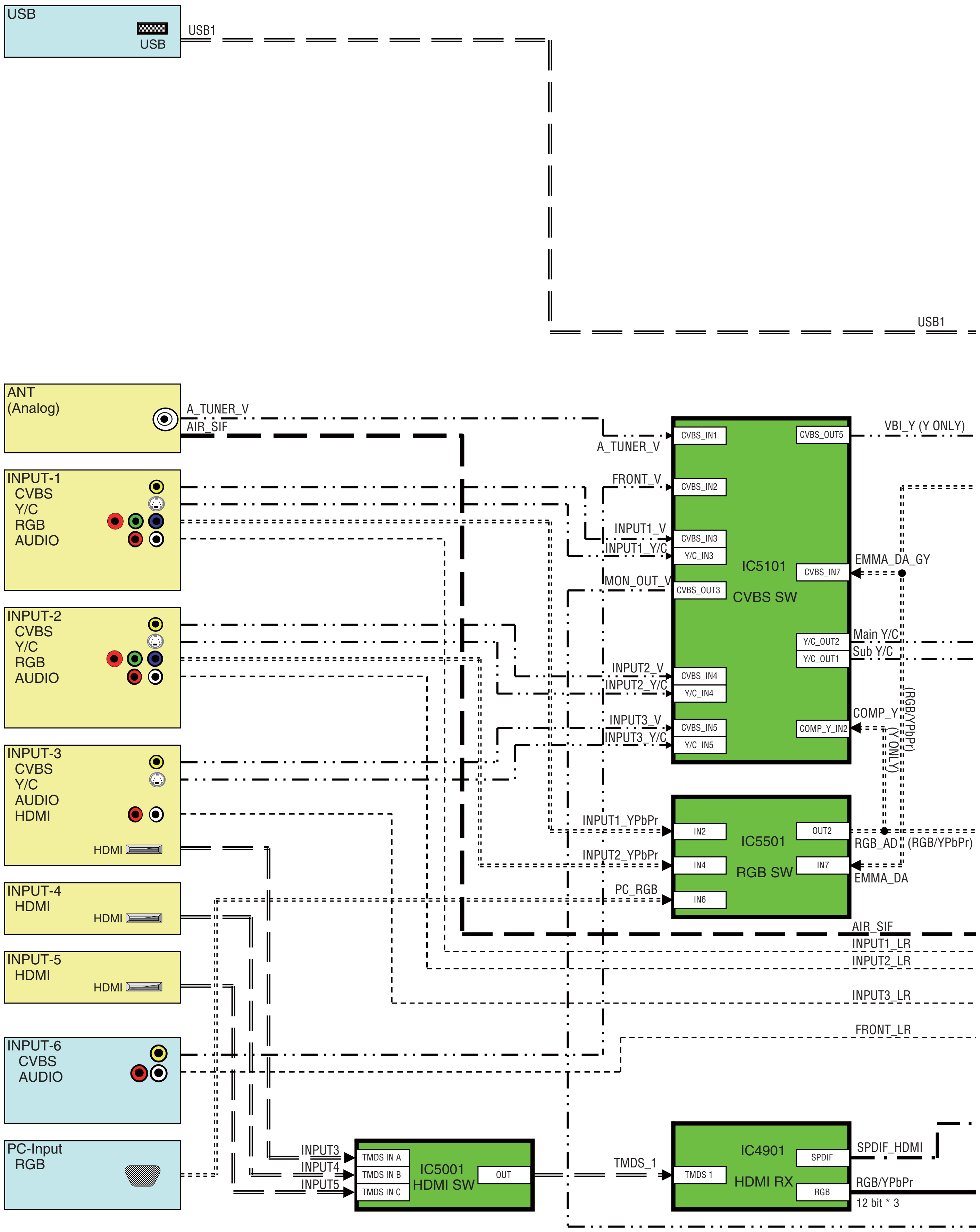
OVERALL DIAGRAM
KRP-M01

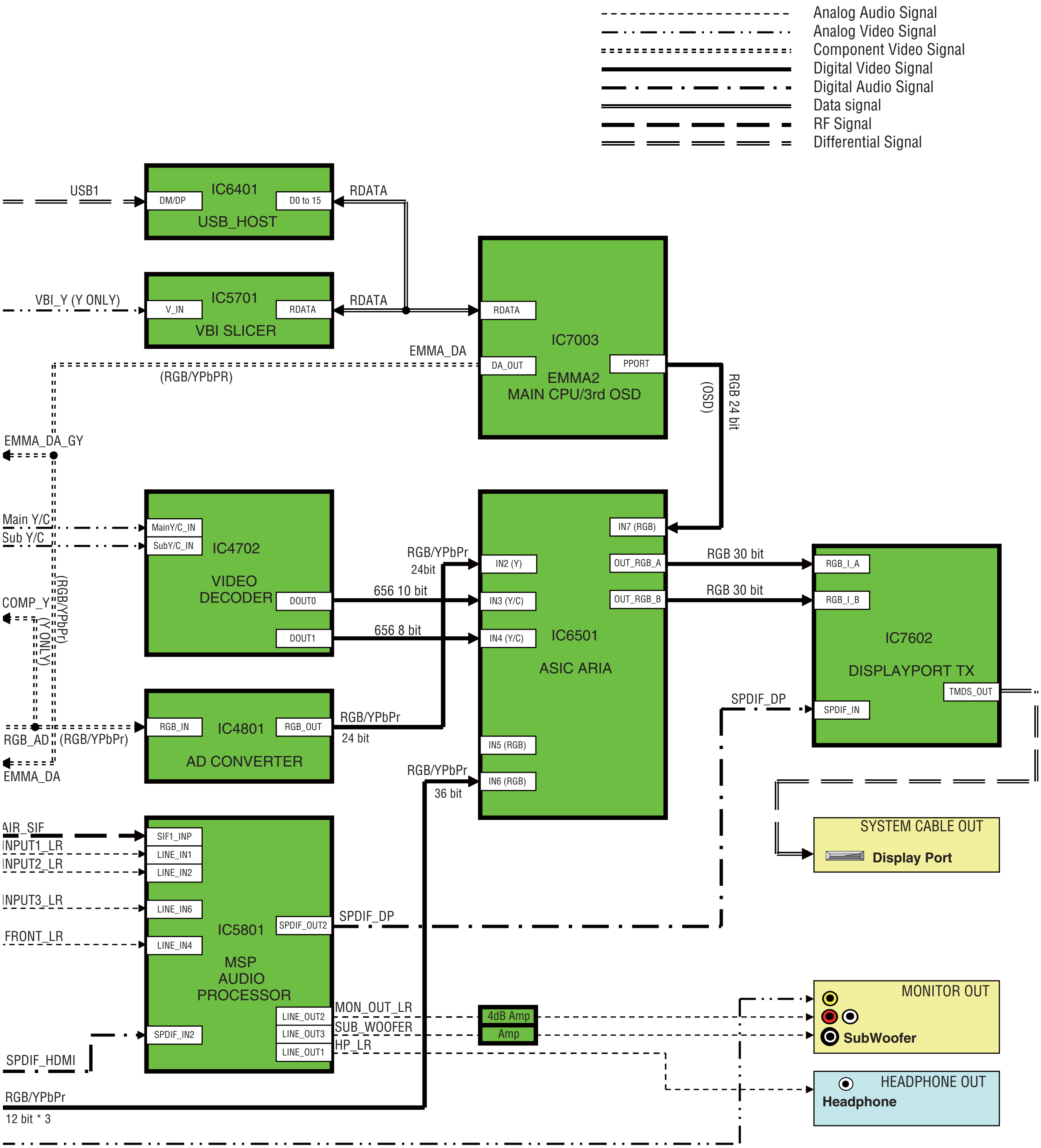
2.3 POWER SUPPLY BLOCK of MAIN BLOCK ASSY


SW REG CONTROLED BY RELAY
V+17V -10%, +22%
V+12V ± 10%
V+6_5V ± 5%
IC4302
Variable-REG
(V+FAN_VCC2)
PQ200WNA1ZPH
FAN_ON2
V+FAN_VCC2
IC4309
Variable-REG
(V+8V_IO)
PQ200WNA1ZPH
RST4
V+8V_IO_AV
V+8V_IO_MSP
IC4308
12V-REG
(V+12V_IO)
NJM78M12DL1A
V+17V
V+12V_IO_MSP
IC4402
D/D conv
(V+5_1V_D)
BD8606FV ②
V+6_5V
IC4402
D/D conv
(V+2_6V_D)
BD8606FV ①
V+1_2V_D2
V+2_6V_D2_ARIA
V+2_6V_D2_ARIA_DDR
V+2_6V_D2_ARIA_ROM
IC4402
D/D conv
(V+1_2V_D)
BD8606FV ③
PSW1_1
V+1_2V_D2_ARIA
IC4305
5V-REG
(V+5V_ANT)
NJM2846DL3-05
V+6_5V
V+5V_ANT
IC4310
5V-REG
(V+5V_IO)
NJM2846DL3_05
RST4
V+5V_IO_AV
V+5V_IO_RGB
V+5V_IO (PC)
IC4306
D/D conv
(V+31V_ANT)
BD8903FV
V+5_1V_D
V+31_5V
IC4301
OCP-SW
(V+5_1V_D_USB)
R5523N001B
USB_POW_E
V+5_1V_
IC4404
3V-REG
(V+3V_A)
NJM2846DL3_33
V+5_1V_D
V+3_3V_
Q4413
FET-SW
(V+3V_A2)
UPA1917TE
V+2_6V_D2
V+3_3V_


STBY SW REG
V+3_4V_STB ± 3.5%
V+5_1V_STB ± 5%
V+3_4V_STB_IF
V+3_4V_STB_232C
V+3_4V_STB (LED)
V+3_4V_STB (PC)
V+3_4V_STB (CEC)
V+5_1V_STB (LED)
V+5_1V_STB (SR)
V+31_5V_ANT
Q4601
FET-SW
(V+3_4V_ACT)
RSS090P03
ACTIVE
V+3_4V_ACT_VBI
V+3_4V_ACT2_DP
Q4619
FET-SW
(V+3_4V_ACT3)
UPA1917TE
V+1_5V_ACT
IC4606
1.8V-REG
(V+1_8V_ACT)
NJM2846DL3_18
V+3_4V_ACT
V+1_8V_ACT_DP
SB)
V+5_1V_D_USB
V+3_4V_D_ADC
Q4616
FET-SW
(V+3_4V_D)
RTQ040P02
V+5_1V_D
V+3_4V_IO_D
V+3_4V_IO_A
Q4603
FET-SW
(V+3_4V_ACT2)
UPA1917TE
V+1_5V_ACT
V+3_4V_ACT2_UCOM
_33
V+3_3V_A_ADC
IC4604
1.8V-REG
(V+1_8V_IO)
NJM2846DL3_18
V+3_4V_D
V+1_8V_IO_MSP
IC4601
D/D conv
(V+2_5V_ACT)
LTC3407EMS-2
②
V+1_5V_ACT
V+2_5V_ACT_UCOM
V+2_5V_ACT_UCOM_DDR
V+3_3V_A2_VDEC
V+3_4V_D3_VDEC
V+3_4V_D3_VDEC_RAM
V+3_4V_D3_ARIA
V+3_4V_D3_ARIA_RAM
IC4601
D/D conv
(V+1_5V_ACT)
LTC3407EMS-2
①
V+3_4V_ACT
V+1_5V_ACT_UCOM
Q4615
FET-SW
(V+1_8V_A_VDEC)
RTQ045N03
V+3_4V_ACT
V+1_5V_ACT2_VBI
V+3_4V_D4_HDMI
Q4618
FET-SW
(V+3_4V_D3)
RSS090P03
V+2_6V_D2
Q4613
FET-SW
(V+3_4V_D4)
RSS100N03
V+2_6V_D2
IC4603
1.8V-REG
(V+1_8V_D2)
NJM2846DL3_18
V+3_4V_D4
Q4614
FET-SW
(V+1_8V_A_VDEC)
RTQ045N03
V+2_6V_D2
V+1_8V_D3_VDEC
V+3_4V_D4_HDMISW
V+1_8V_D2_HDMI

2.4 AV BLOCK


USB
USB
USB1
USB1
ANT
(Analog)
A_TUNER_V
AIR_SIF
A_TUNER_V
INPUT-1
CVBS
Y/C
RGB
AUDIO
INPUT-2
CVBS
Y/C
RGB
AUDIO
INPUT-3
CVBS
Y/C
AUDIO
HDMI
HDMI
INPUT-4
HDMI
HDMI
INPUT-5
HDMI
HDMI
INPUT-6
CVBS
AUDIO
PC-Input
RGB
FRONT_V
INPUT1_V
INPUT1_Y/C
MON_OUT_V
INPUT2_V
INPUT2_Y/C
INPUT3_V
INPUT3_Y/C
CVBS_IN1
CVBS_IN2
CVBS_IN3
Y/C_IN3
CVBS_OUT3
CVBS_IN4
Y/C_IN4
CVBS_IN5
Y/C_IN5
IC5101
CVBS SW
CVBS_OUT5
CVBS_IN7
Y/C_OUT2
Y/C_OUT1
COMP_Y_IN2
VBI_Y (Y ONLY)
EMMA_DA_GY
Main Y/C
Sub Y/C
COMP_Y
(RGB/YPbPr)
(Y ONLY)
INPUT1_YPbPr
INPUT2_YPbPr
PC_RGB
IN2
IN4
IN6
IC5501
RGB SW
OUT2
IN7
RGB_AD
(RGB/YPbPr)
EMMA_DA
AIR_SIF
INPUT1_LR
INPUT2_LR
INPUT3_LR
FRONT_LR
INPUT3
INPUT4
INPUT5
TMDS IN A
TMDS IN B
TMDS IN C
IC5001
HDMI SW
OUT
TMDS_1
TMDS 1
IC4901
HDMI RX
SPDIF
RGB
SPDIF_HDMI
RGB/YPbPr
12 bit * 3


Analog Audio Signal
Analog Video Signal
Component Video Signal
Digital Video Signal
Digital Audio Signal
Data signal
RF Signal
Differential Signal
USB1
DM/DP
IC6401
USB_HOST
D0 to 15
RDATA
VBI_Y (Y ONLY)
V_IN
IC5701
VBI SLICER
RDATA
RDATA
EMMA_DA
(RGB/YPbPR)
RDATA
DA_OUT
IC7003
EMMA2
MAIN CPU/3rd OSD
PPORT
(OSD)
RGB 24 bit
EMMA_DA_GY
Main Y/C
Sub Y/C
MainY/C_IN
SubY/C_IN
IC4702
VIDEO
DECODER
DOUT0
DOUT1
COMP_Y
(RGB/YPbPr)
(Y ONLY)
RGB/YPbPr
24bit
656 10 bit
656 8 bit
IN7 (RGB)
IN2 (Y)
IN3 (Y/C)
IN4 (Y/C)
IC6501
ASIC ARIA
OUT_RGB_A
OUT_RGB_B
IN5 (RGB)
IN6 (RGB)
RGB 30 bit
RGB 30 bit
RGB_I_A
RGB_I_B
IC7602
DISPLAYPORT TX
TMDS_OUT
SPDIF_IN
SPDIF_DP
RGB_AD
(RGB/YPbPr)
EMMA_DA
RGB_IN
IC4801
AD CONVERTER
RGB_OUT
RGB/YPbPr
24 bit
RGB/YPbPr
36 bit
SYSTEM CABLE OUT
Display Port
AIR_SIF
INPUT1_LR
INPUT2_LR
INPUT3_LR
FRONT_LR
SIF1_INP
LINE_IN1
LINE_IN2
LINE_IN6
LINE_IN4
IC5801
MSP
AUDIO
PROCESSOR
SPDIF_OUT2
SPDIF_DP
SPDIF_IN2
SPDIF_HDMI
LINE_OUT2
LINE_OUT3
LINE_OUT1
MON_OUT_LR
SUB_WOOFER
HP_LR
4dB Amp
Amp
MONITOR OUT
SubWoofer
HEADPHONE OUT
Headphone
RGB/YPbPr
12 bit * 3

3. DIAGNOSIS

Following item is same as the KRP-M01/WYSIXK5.

OUTLINE OF RS-232C COMMAND

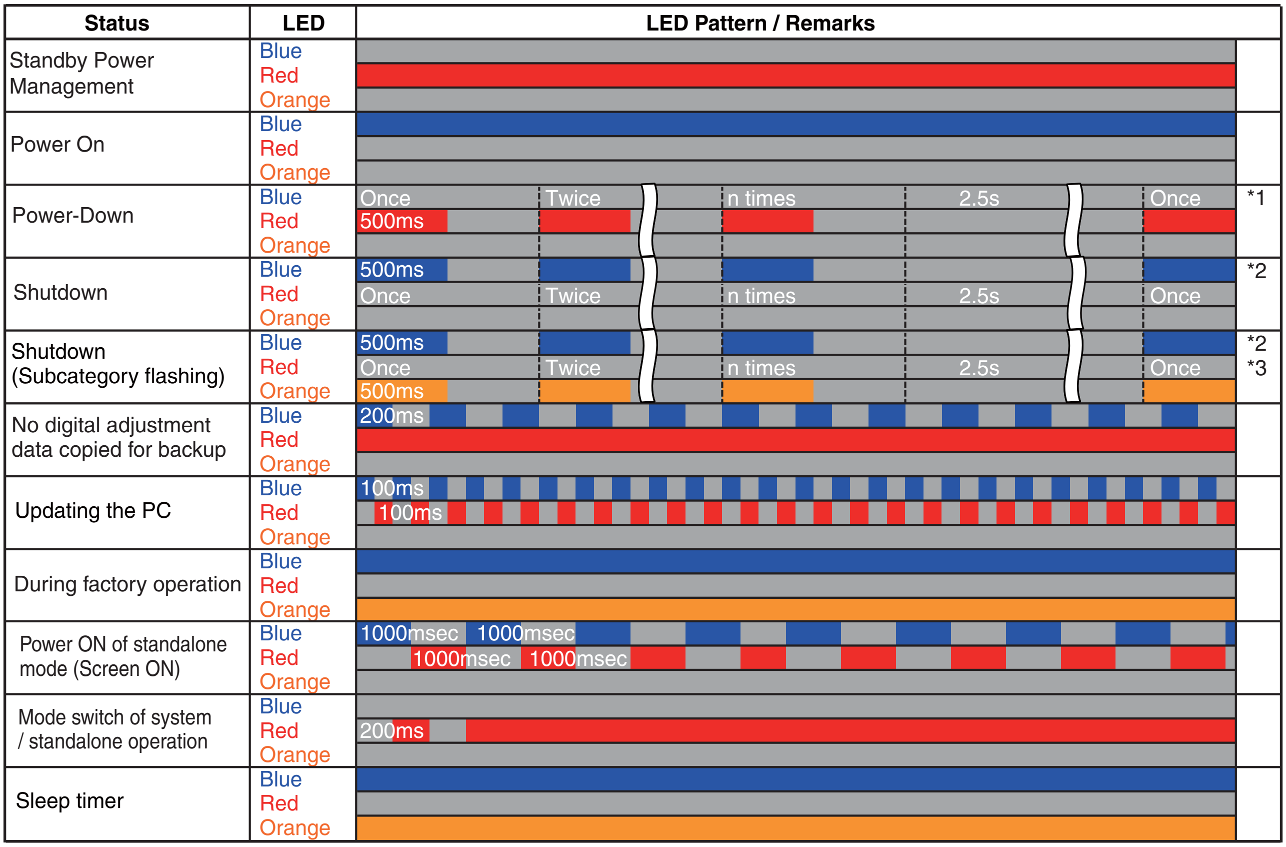
3.1 POWER SUPPLY OPERATION

Following item is same as the KRP-M01/WYSIXK5.

[2] POWER ON SEQUENCE

[1] LED DISPLAY INFORMATION

■ LED Pattern



Status	LED	LED Pattern / Remarks	
Standby Power Management	Blue		
	Red		
	Orange		
Power On	Blue		
	Red		
	Orange		
Power-Down	Blue	Once, Twice, n times, 2.5s, Once	*1
	Red	500ms	
	Orange		
Shutdown	Blue	500ms	*2
	Red	Once, Twice, n times, 2.5s, Once	
	Orange		
Shutdown (Subcategory flashing)	Blue	500ms	*2
	Red	Once, Twice, n times, 2.5s, Once	*3
	Orange	500ms	
No digital adjustment data copied for backup	Blue	200ms	
	Red		
	Orange		
Updating the PC	Blue	100ms	
	Red	100ms	
	Orange		
During factory operation	Blue		
	Red		
	Orange		
Power ON of standalone mode (Screen ON)	Blue	1000msec, 1000msec	
	Red	1000msec, 1000msec	
	Orange		
Mode switch of system / standalone operation	Blue		
	Red	200ms	
	Orange		
Sleep timer	Blue		
	Red		
	Orange		

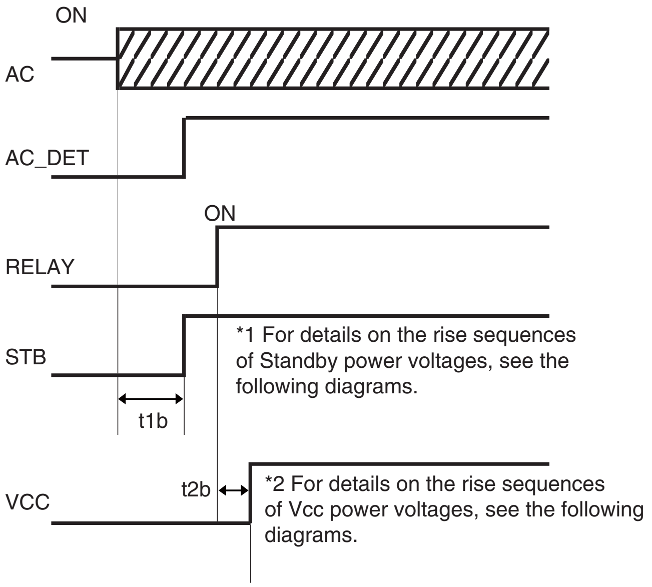
POWER
ON
STANDBY
SLEEP

*1: Notify upon the power-down content by Red LED flashing number of times.
*2: Notify upon the shutdown content by Blue LED flashing number of times.
*3: Notify upon the subcategory number by Orange LED flashing number of times.

[3] DETAILS OF POWER ON SEQUENCE

The rise of the output voltage is defined as the point at which 10% output voltage is reached.

1. Sequence of Relay ON (IN)

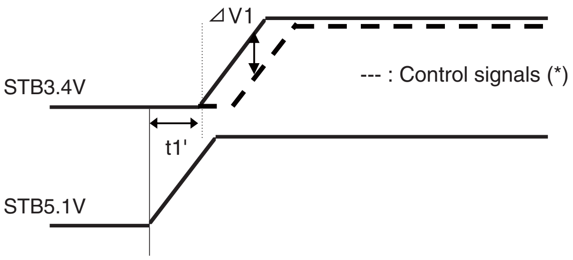


*1 For details on the rise sequences of Standby power voltages, see the following diagrams.

*2 For details on the rise sequences of Vcc power voltages, see the following diagrams.

Relay ON	
Item	**Specified Time**
AC to STB	t1b ≦ 0.8s
RELAY to VCC	t2b ≦ 0.5s

2. Rise sequence of Standby power voltages

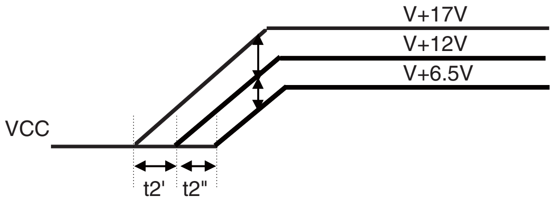


<Specified time and difference of voltages>

Rise	
Item	**Specified Time**
STB5.1V to STB3.4V	-50ms ≦ t1' ≦ 50ms
Item	**Specified difference of voltages**
STB3.4V - Control signal (*)	0 V ≦ ΔV 1

(*) Control signals (output signals) denote AC_DET and PD_TRG signals.

3. Rise sequences of Vcc power voltages



<Specified time of voltages>

Rise	
Item	**Specified time (at nominal load)**
V+17V to V+12V	0ms ≦ t2' ≦ 10ms
V+12V to V+6.5V	0ms ≦ t2" ≦ 10ms

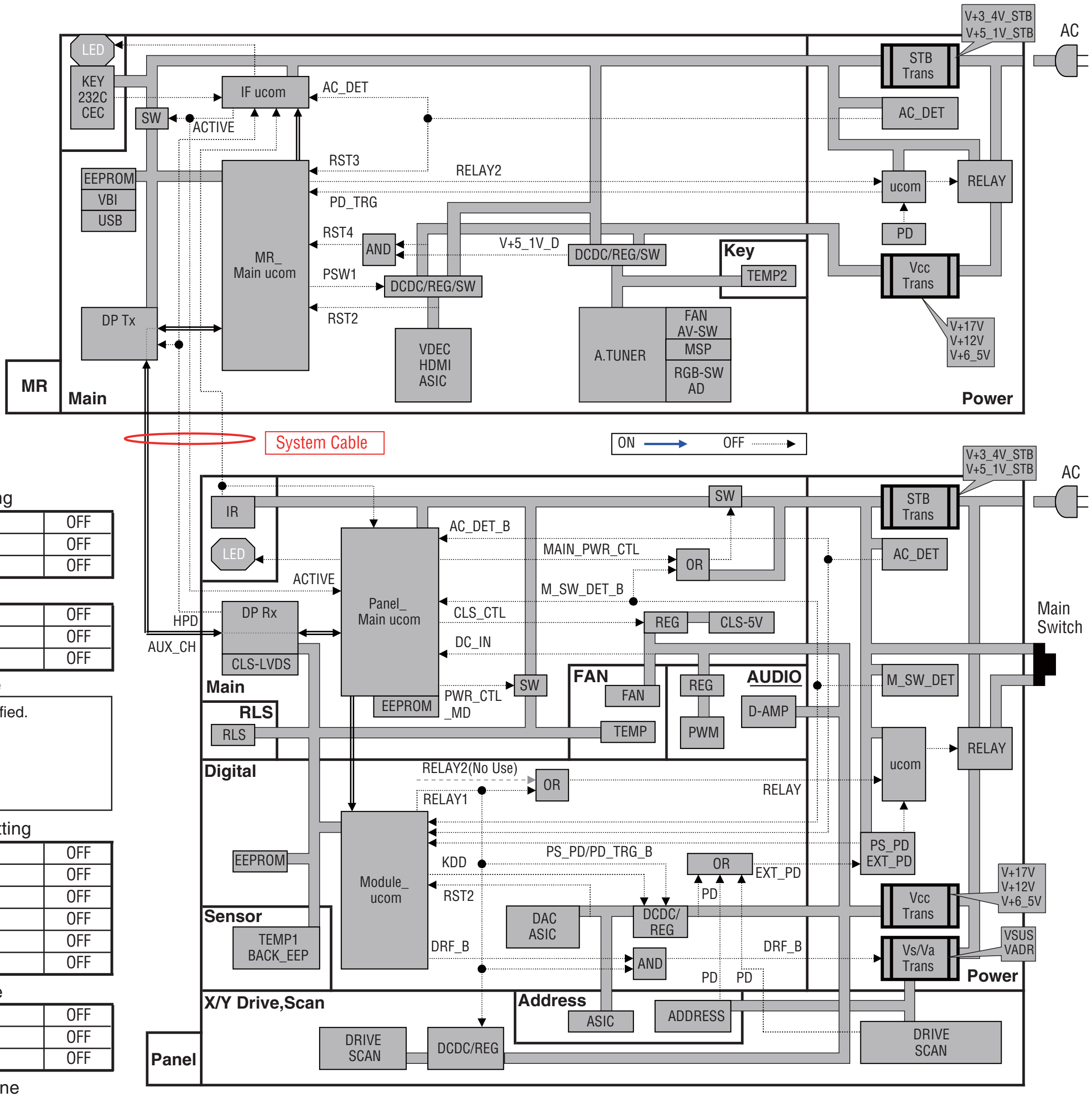
4. Specifications of the rise time of the output voltages (common to all sequences)

Note that there must not be any temporary voltage drop during rising.

Rise time (time required for reaching from 10% to 90% output voltage)	
Item	**Specified time**
STB 10% to STB 90%	tr_STB ≦ 100ms
VCC 10% to VCC 90%	tr_VCC ≦ 200ms

DETAILS OF POWER ON SEQUENCE

AC-OFF


LED
KEY 232C CEC
SW
ACTIVE
IF ucom
AC_DET
EEPROM
VBI
USB
RST3
RELAY2
PD_TRG
MR_ Main ucom
RST4
AND
V+5_1V_D
DCDC/REG/SW
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC HDMI ASIC
A.TUNER
FAN AV-SW
MSP
RGB-SW AD
Key
TEMP2
MR
Main
Power
V+3_4V_STB V+5_1V_STB
AC
STB Trans
AC_DET
ucom
RELAY
PD
Vcc Trans
V+17V V+12V V+6_5V
System Cable
ON
OFF
IR
LED
AC_DET_B
MAIN_PWR_CTL
OR
M_SW_DET_B
ACTIVE
Panel_ Main ucom
CLS_CTL
REG
CLS-5V
DC_IN
HPD
DP Rx
AUX_CH
CLS-LVDS
Main
SW
PWR_CTL _MD
EEPROM
FAN
FAN
TEMP
REG
PWM
AUDIO
D-AMP
RLS
RLS
M_SW_DET
Main Switch
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
Module_ ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
PS_PD EXT_PD
RST2
PD
DAC ASIC
DCDC/ REG
Vcc Trans
V+17V V+12V V+6_5V
Sensor
TEMP1 BACK_EEP
DRF_B
AND
DRF_B
PD
PD
Vs/Va Trans
VSUS VADR
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE SCAN
DCDC/REG
DRIVE SCAN
Panel

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

All devices are not electrified.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	OFF
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

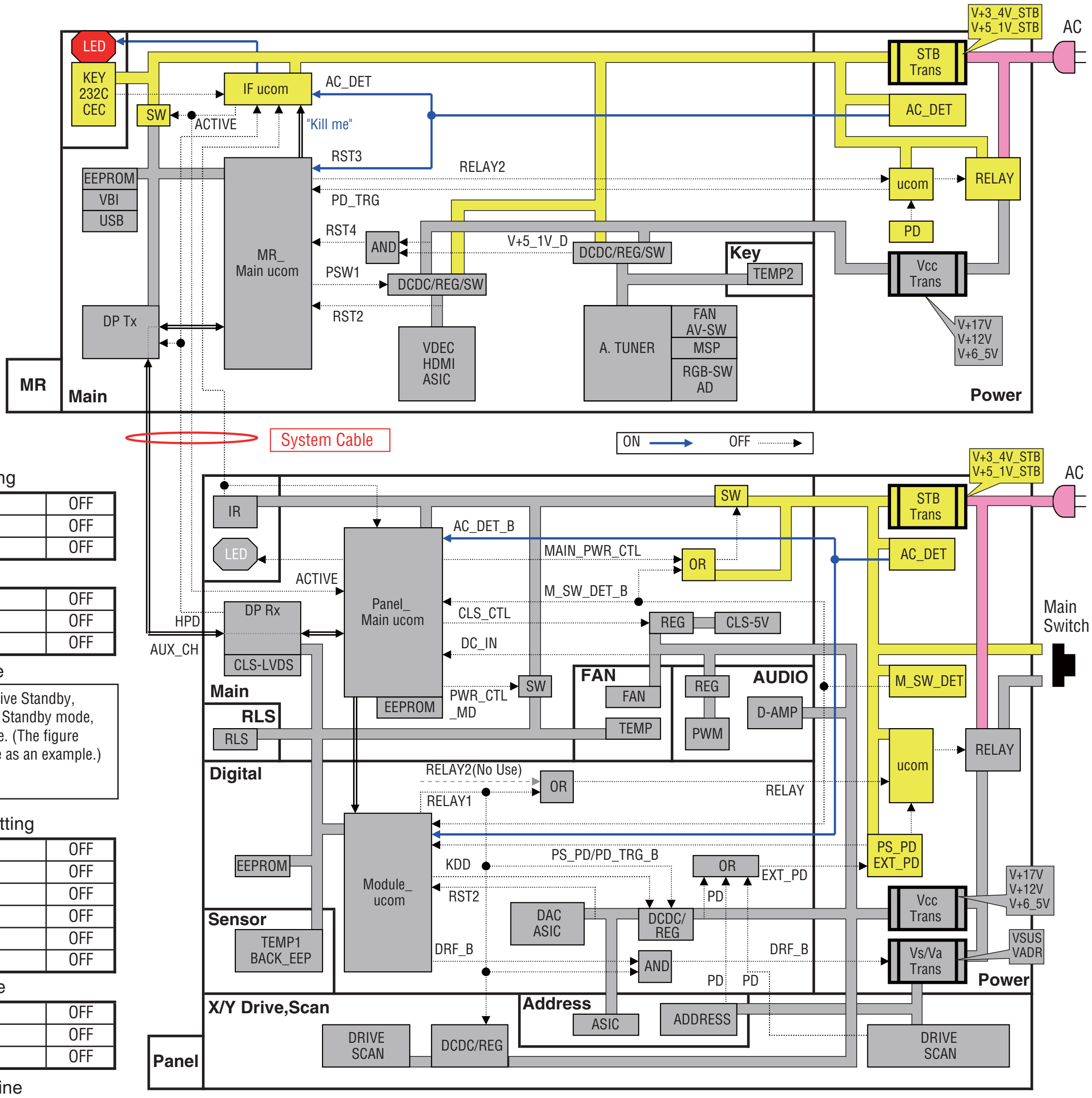
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

All devices are not electrified.

Panel Main Power OFF


LED
KEY
232C
CEC
SW
IF ucom
ACTIVE
AC_DET
"Kill me"
RST3
RELAY2
PD_TRG
RST4
AND
PSW1
RST2
EEPROM
VBI
USB
MR_
Main ucom
DP Tx
DCDC/REG/SW
V+5_1V_D
DCDC/REG/SW
VDEC
HDMI
ASIC
A. TUNER
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
MR
Main
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Power
System Cable
ON
OFF
IR
LED
ACTIVE
HPD
AUX_CH
DP Rx
CLS-LVDS
Main
RLS
RLS
Panel_
Main ucom
EEPROM
AC_DET_B
MAIN_PWR_CTL
OR
M_SW_DET_B
CLS_CTL
REG
CLS-5V
DC_IN
PWR_CTL
_MD
SW
FAN
FAN
TEMP
REG
PWM
AUDIO
D-AMP
SW
STB
Trans
AC_DET
Main
Switch
M_SW_DET
ucom
RELAY
Digital
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
Module_
ucom
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
PS_PD
EXT_PD
RST2
PD
DAC
ASIC
DCDC/
REG
AND
DRF_B
DRF_B
PD
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Vs/Va
Trans
VSUS
VADR
Power
Sensor
TEMP1
BACK_EEP
X/Y Drive,Scan
DRIVE
SCAN
DCDC/REG
Address
ASIC
ADDRESS
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

The unit will enter either Passive Standby, Active Standby, or Functional Standby mode, according to the circumstance. (The figure shows Passive Standby mode as an example.)

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	OFF
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

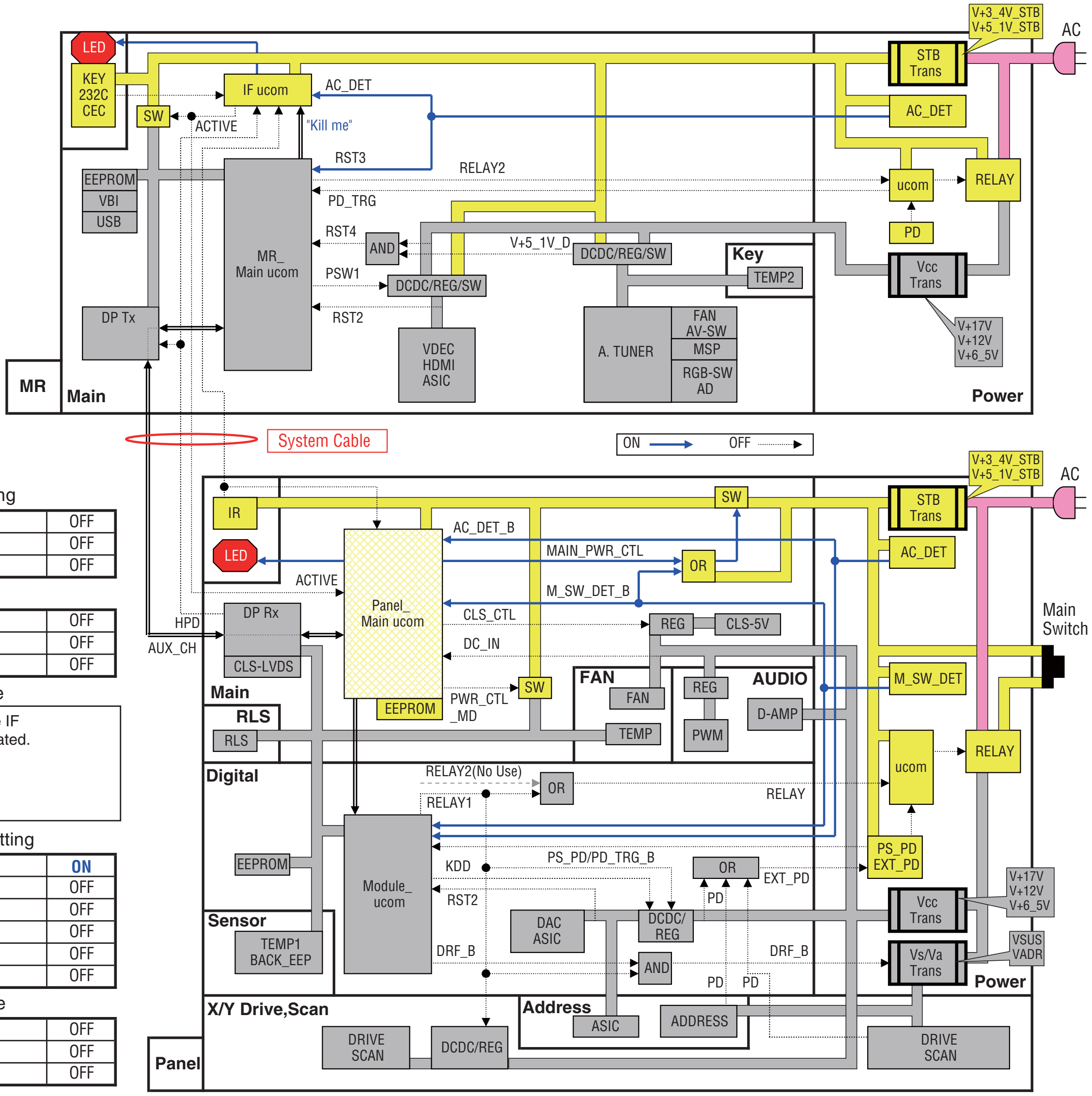
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Standby power is supplied from the Power Assy, but power to each device is interrupted.

Passive Standby


V+3_4V_STB
V+5_1V_STB
AC
LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
"Kill me"
RST3
RELAY2
EEPROM
VBI
USB
PD_TRG
RST4
AND
V+5_1V_D
DCDC/REG/SW
Key
TEMP2
MR_
Main ucom
PSW1
DCDC/REG/SW
DP Tx
RST2
VDEC
HDMI
ASIC
A. TUNER
FAN
AV-SW
MSP
RGB-SW
AD
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
IR
SW
STB
Trans
LED
AC_DET_B
AC_DET
MAIN_PWR_CTL
OR
ACTIVE
Panel_
Main ucom
M_SW_DET_B
Main
Switch
DP Rx
HPD
CLS_CTL
REG
CLS-5V
AUX_CH
DC_IN
CLS-LVDS
FAN
AUDIO
M_SW_DET
Main
SW
FAN
REG
EEPROM
PWR_CTL
_MD
D-AMP
RLS
TEMP
PWM
RLS
ucom
RELAY
Digital
RELAY2(No Use)
OR
RELAY
RELAY1
EEPROM
KDD
PS_PD/PD_TRG_B
OR
PS_PD
EXT_PD
Module_
ucom
EXT_PD
RST2
PD
V+17V
V+12V
V+6_5V
Vcc
Trans
Sensor
DAC
ASIC
DCDC/
REG
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
VSUS
VADR
Vs/Va
Trans
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	OFF
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

Only the periphery of the IF microcomputer are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	**ON**
Panel Main: PWR_CTL_MD	OFF
Panel Main: CLS_CTL	OFF
DP Rx: HPD	OFF
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

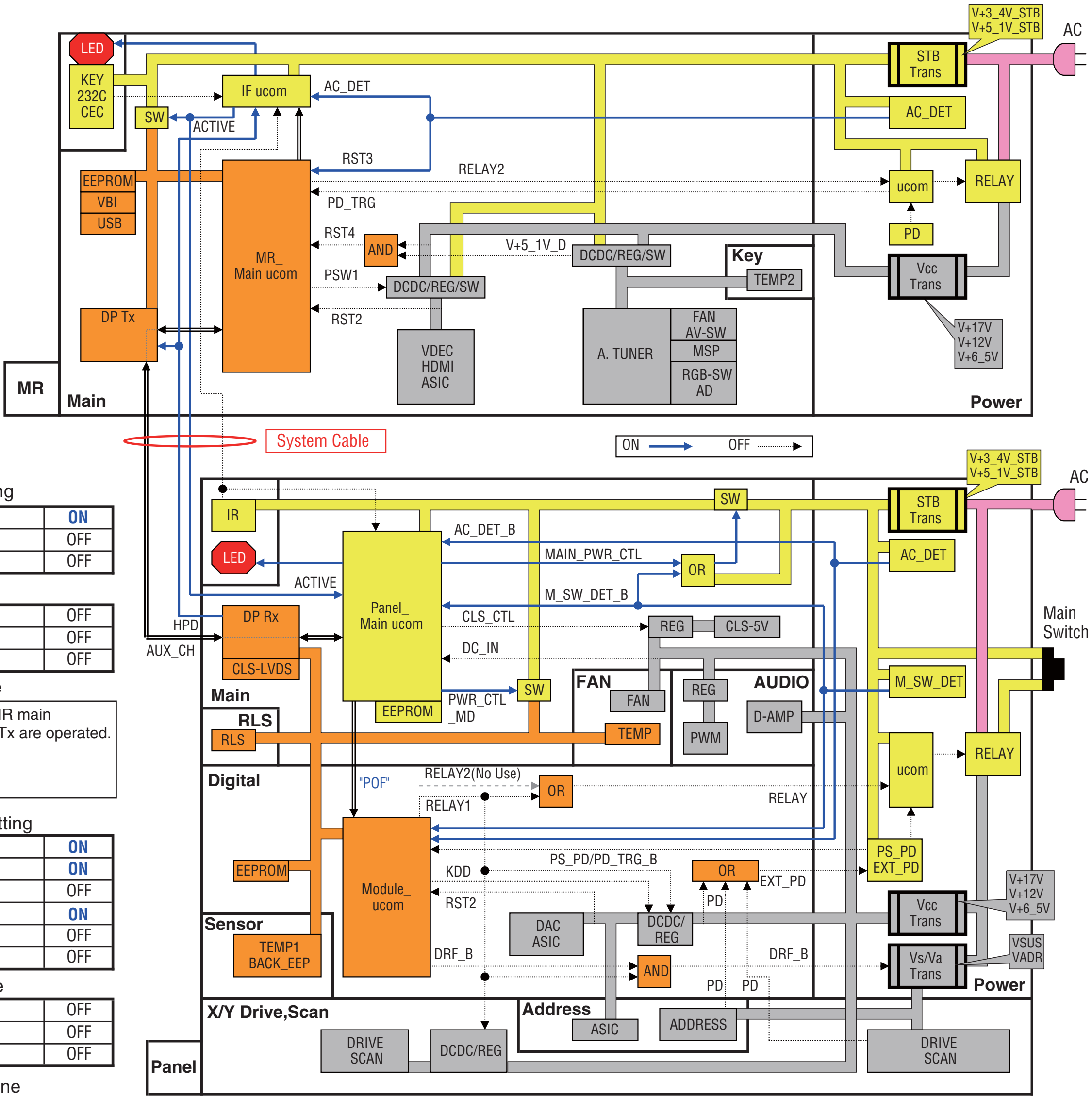
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Only the periphery of the Panel main microcomputer and IR are operated.
In this time, panel main microcomputer is the sleep mode.

Active Standby


V+3_4V_STB
V+5_1V_STB
AC
LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
STB Trans
AC_DET
RST3
RELAY2
EEPROM
VBI
USB
PD_TRG
ucom
RELAY
PD
RST4
AND
V+5_1V_D
DCDC/REG/SW
Key
TEMP2
MR_
Main ucom
PSW1
DCDC/REG/SW
Vcc Trans
DP Tx
RST2
FAN
AV-SW
MSP
RGB-SW
AD
VDEC
HDMI
ASIC
A. TUNER
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
SW
IR
STB Trans
AC_DET_B
AC_DET
LED
MAIN_PWR_CTL
OR
ACTIVE
M_SW_DET_B
Panel_
Main ucom
Main Switch
DP Rx
HPD
CLS_CTL
REG
CLS-5V
AUX_CH
CLS-LVDS
DC_IN
Main
FAN
AUDIO
M_SW_DET
SW
FAN
REG
RLS
EEPROM
PWR_CTL
_MD
D-AMP
RLS
TEMP
PWM
ucom
RELAY
Digital
"POF"
RELAY2(No Use)
OR
RELAY
RELAY1
PS_PD
EXT_PD
EEPROM
PS_PD/PD_TRG_B
OR
KDD
EXT_PD
Module_
ucom
PD
V+17V
V+12V
V+6_5V
Sensor
RST2
DAC
ASIC
DCDC/
REG
Vcc Trans
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
VSUS
VADR
Vs/Va Trans
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	**ON**
MR Main: RELAY2	OFF
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	OFF
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

Periphery of the IF and MR main microcomputers and DP Tx are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	**ON**
Panel Main: PWR_CTL_MD	**ON**
Panel Main: CLS_CTL	OFF
DP Rx: HPD	**ON**
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

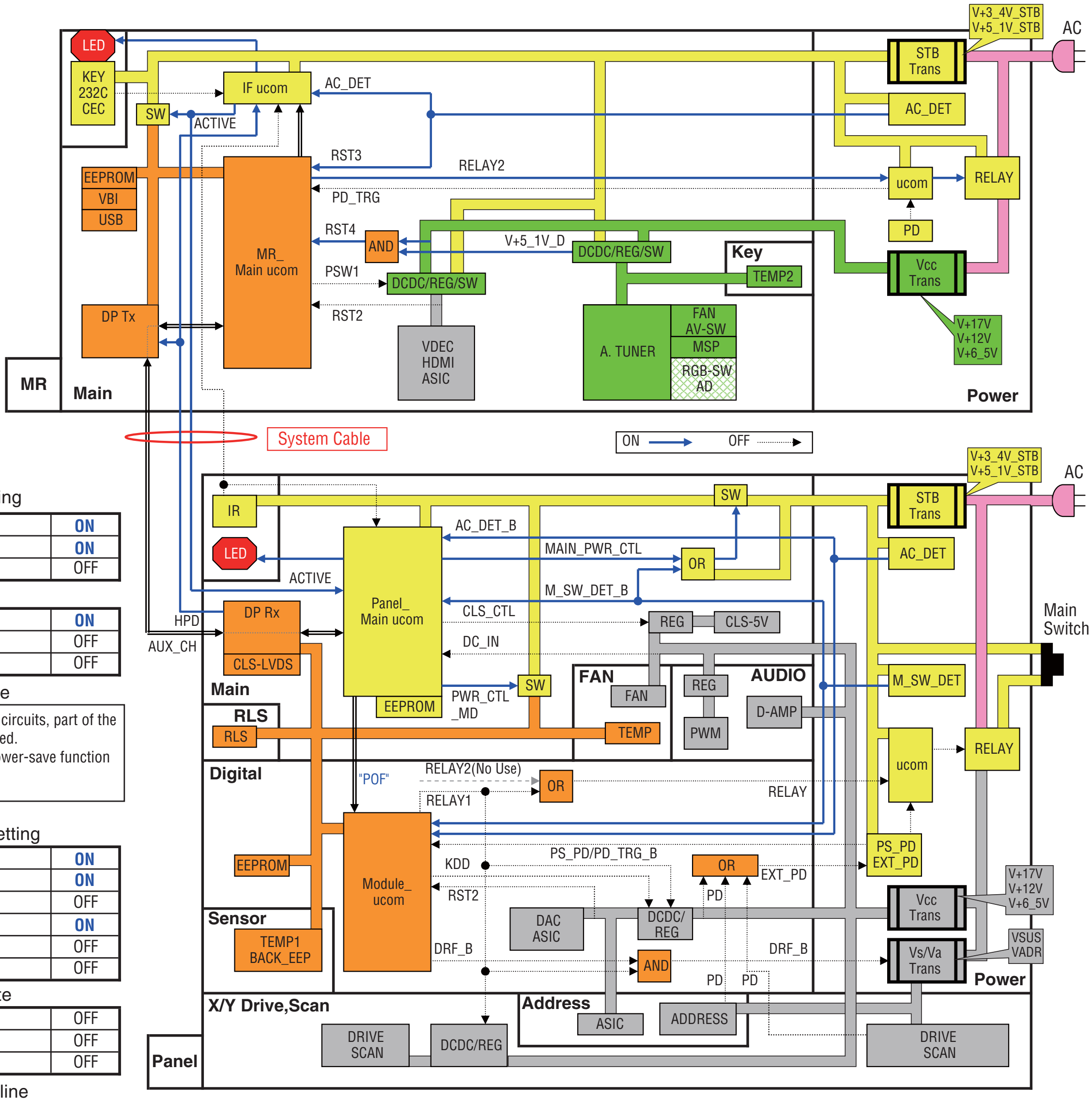
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Periphery of the Panel main microcomputer, IR, DP Rx and module microcomputer are operated.

Function Standby


LED
KEY
232C
CEC
SW
IF ucom
AC_DET
ACTIVE
RST3
RELAY2
PD_TRG
EEPROM
VBI
USB
MR_
Main ucom
RST4
AND
V+5_1V_D
DCDC/REG/SW
PSW1
DCDC/REG/SW
RST2
DP Tx
VDEC
HDMI
ASIC
A. TUNER
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
MR
Main
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Power
System Cable
ON
OFF
IR
SW
LED
ACTIVE
AC_DET_B
MAIN_PWR_CTL
OR
M_SW_DET_B
Panel_
Main ucom
HPD
DP Rx
AUX_CH
CLS-LVDS
CLS_CTL
DC_IN
REG
CLS-5V
Main
EEPROM
PWR_CTL
_MD
SW
FAN
FAN
REG
AUDIO
D-AMP
PWM
RLS
RLS
TEMP
Digital
"POF"
RELAY2(No Use)
OR
RELAY1
RELAY
EEPROM
KDD
PS_PD/PD_TRG_B
OR
EXT_PD
Module_
ucom
RST2
DAC
ASIC
DCDC/
REG
PD
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
PD
PD
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
Main
Switch
M_SW_DET
ucom
RELAY
PS_PD
EXT_PD
Vcc
Trans
V+17V
V+12V
V+6_5V
Vs/Va
Trans
VSUS
VADR
Power

(MR) Output port setting

IF: ACTIVE	ON
MR Main: RELAY2	ON
MR Main: PSW1	OFF

(MR) Input port state

MR Main: RST4	ON
MR Main: RST2	OFF
MR Main: PD_TRG	OFF

(MR) Operation outline

- Besides the standby power circuits, part of the Vcc circuits are also activated.
- RGB-SW/AD IC uses the power-save function of the IC.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	ON
Panel Main: CLS_CTL	OFF
DP Rx: HPD	ON
Module: RELAY1 / KDD	OFF
Module: DRF_B	OFF

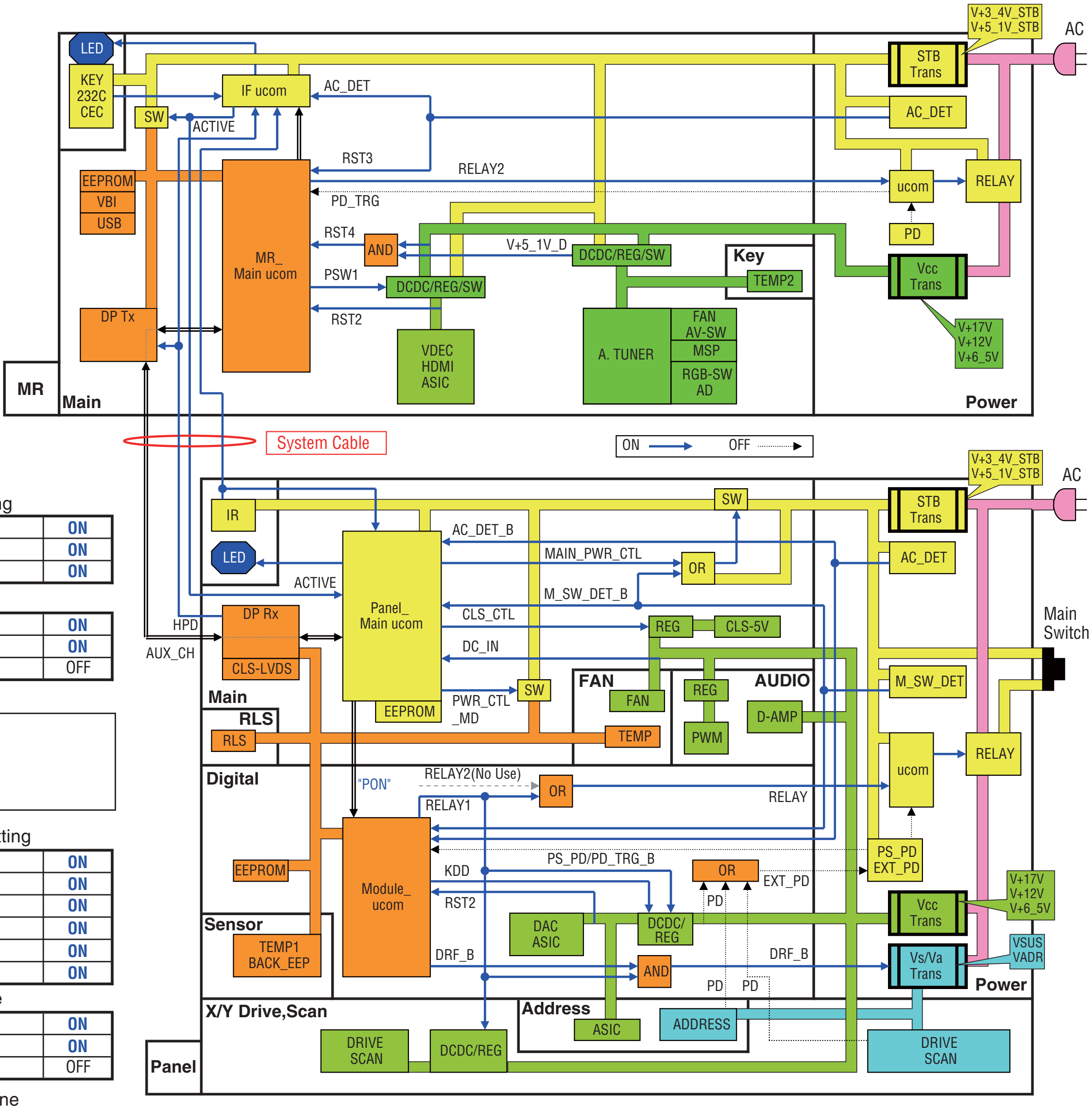
(Panel) Input port state

Main: DC_IN	OFF
Module: RST2	OFF
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

Periphery of the Panel main microcomputer, IR, DP Rx and module microcomputer are operated.
(As same state as the active standby)

PDP Screen ON


LED
KEY
232C
CEC
SW
IF ucom
ACTIVE
AC_DET
RST3
RELAY2
PD_TRG
RST4
PSW1
RST2
EEPROM
VBI
USB
DP Tx
MR_
Main ucom
AND
DCDC/REG/SW
V+5_1V_D
DCDC/REG/SW
VDEC
HDMI
ASIC
A. TUNER
FAN
AV-SW
MSP
RGB-SW
AD
Key
TEMP2
V+3_4V_STB
V+5_1V_STB
AC
STB
Trans
AC_DET
ucom
RELAY
PD
Vcc
Trans
V+17V
V+12V
V+6_5V
MR
Main
Power
System Cable
ON
OFF
V+3_4V_STB
V+5_1V_STB
AC
IR
SW
STB
Trans
AC_DET_B
LED
MAIN_PWR_CTL
OR
AC_DET
ACTIVE
Panel_
Main ucom
M_SW_DET_B
Main
Switch
HPD
DP Rx
CLS_CTL
REG
CLS-5V
AUX_CH
CLS-LVDS
DC_IN
FAN
AUDIO
M_SW_DET
Main
SW
FAN
REG
D-AMP
EEPROM
PWR_CTL
_MD
RLS
RLS
TEMP
PWM
ucom
RELAY
Digital
"PON"
RELAY2(No Use)
OR
RELAY
RELAY1
PS_PD/PD_TRG_B
PS_PD
EXT_PD
EEPROM
KDD
OR
EXT_PD
Module_
ucom
RST2
PD
DAC
ASIC
DCDC/
REG
Vcc
Trans
V+17V
V+12V
V+6_5V
Sensor
TEMP1
BACK_EEP
DRF_B
AND
DRF_B
Vs/Va
Trans
VSUS
VADR
PD
PD
Power
X/Y Drive,Scan
Address
ASIC
ADDRESS
DRIVE
SCAN
DCDC/REG
DRIVE
SCAN
Panel

(MR) Output port setting

IF: ACTIVE	ON
MR Main: RELAY2	ON
MR Main: PSW1	ON

(MR) Input port state

MR Main: RST4	ON
MR Main: RST2	ON
MR Main: PD_TRG	OFF

(MR) Operation outline

All devices are operated.

(Panel) Output port setting

Panel Main: MAIN_PWR_CTL	ON
Panel Main: PWR_CTL_MD	ON
Panel Main: CLS_CTL	ON
DP Rx: HPD	ON
Module: RELAY1 / KDD	ON
Module: DRF_B	ON

(Panel) Input port state

Main: DC_IN	ON
Module: RST2	ON
Module: PS_PD/PD_TRG_B	OFF

(Panel) Operation outline

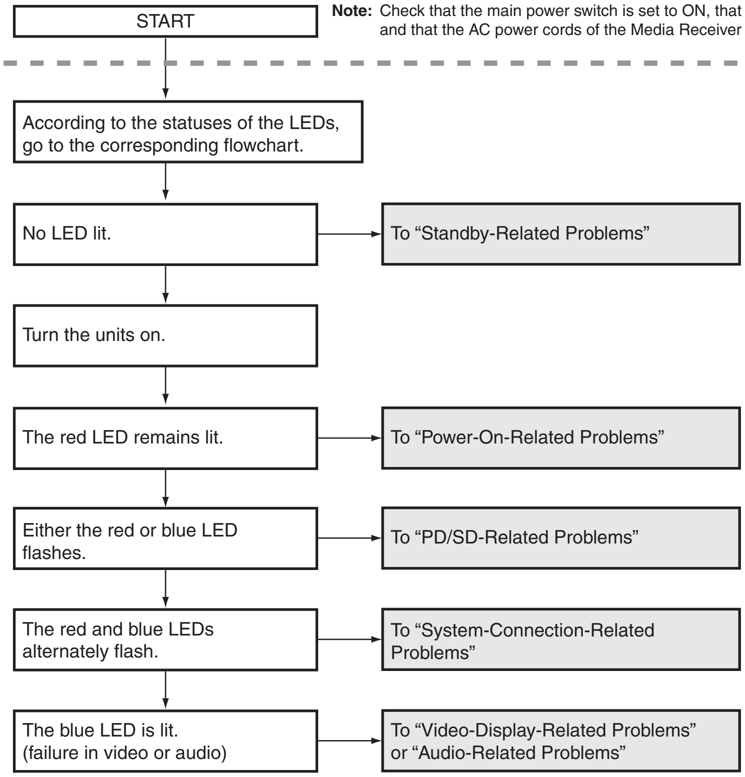
All devices are operated.

3.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS

[1] WHOLE UNIT

Flowchart of Failure Analysis for The Whole Unit

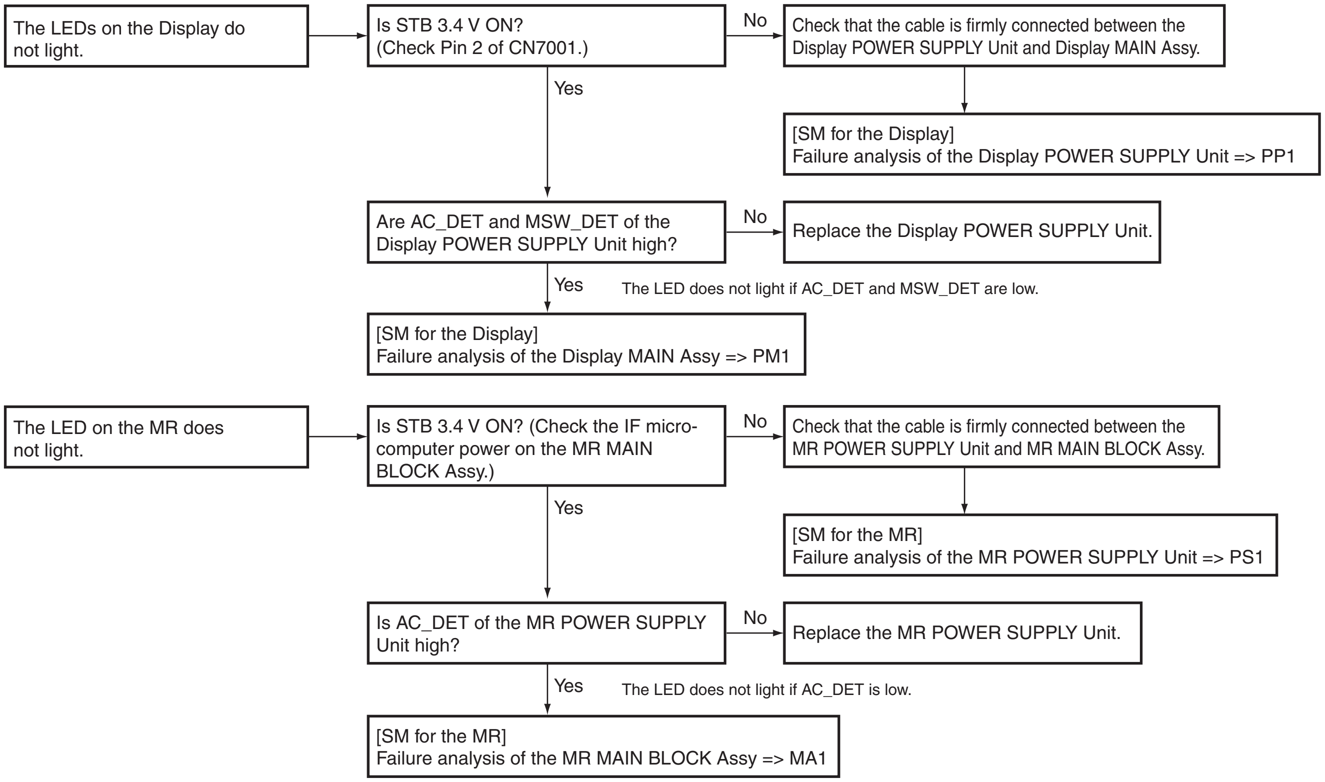
Note: Check that the main power switch is set to ON, that the system cable is connected, and that the AC power cords of the Media Receiver and display are both plugged in.


START
According to the statuses of the LEDs, go to the corresponding flowchart.
No LED lit.
To "Standby-Related Problems"
Turn the units on.
The red LED remains lit.
To "Power-On-Related Problems"
Either the red or blue LED flashes.
To "PD/SD-Related Problems"
The red and blue LEDs alternately flash.
To "System-Connection-Related Problems"
The blue LED is lit. (failure in video or audio)
To "Video-Display-Related Problems" or "Audio-Related Problems"

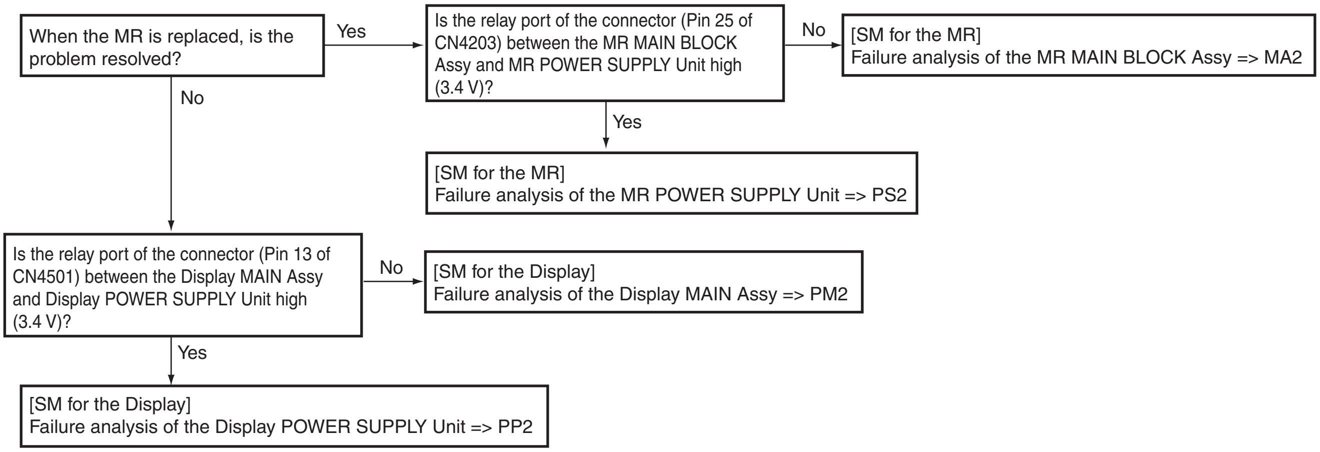
Note:
MR and Display in this chapter denote the following:
MR: Media Receiver (KRP-M01)
Display: PLASMA DISPLAY (KRP-600P, KRP-500P)

Standby-Related Problems

- You can check ON/STB and PD/SD statuses of the display with the green and red LEDs on the DIGITAL Assy. If neither the green nor red LED is lit, it is likely that STB power is not supplied. (Failure in the POWER SUPPLY Unit or the unit is PASV-STB state.)


The LEDs on the Display do not light.
Is STB 3.4 V ON? (Check Pin 2 of CN7001.)
No
Check that the cable is firmly connected between the Display POWER SUPPLY Unit and Display MAIN Assy.
[SM for the Display] Failure analysis of the Display POWER SUPPLY Unit => PP1
Yes
Are AC_DET and MSW_DET of the Display POWER SUPPLY Unit high?
No
Replace the Display POWER SUPPLY Unit.
Yes
The LED does not light if AC_DET and MSW_DET are low.
[SM for the Display] Failure analysis of the Display MAIN Assy => PM1
The LED on the MR does not light.
Is STB 3.4 V ON? (Check the IF micro-computer power on the MR MAIN BLOCK Assy.)
No
Check that the cable is firmly connected between the MR POWER SUPPLY Unit and MR MAIN BLOCK Assy.
[SM for the MR] Failure analysis of the MR POWER SUPPLY Unit => PS1
Yes
Is AC_DET of the MR POWER SUPPLY Unit high?
No
Replace the MR POWER SUPPLY Unit.
Yes
The LED does not light if AC_DET is low.
[SM for the MR] Failure analysis of the MR MAIN BLOCK Assy => MA1

Power-On-Related Problems



When the MR is replaced, is the problem resolved?

Is the relay port of the connector (Pin 25 of CN4203) between the MR MAIN BLOCK Assy and MR POWER SUPPLY Unit high (3.4 V)?

[SM for the MR]
Failure analysis of the MR MAIN BLOCK Assy => MA2

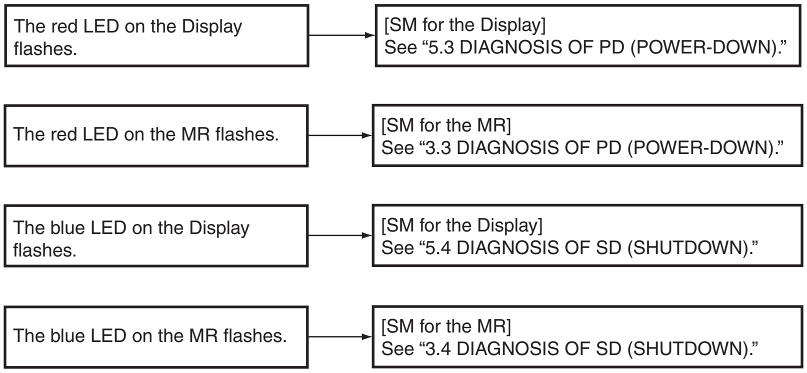
[SM for the MR]
Failure analysis of the MR POWER SUPPLY Unit => PS2

Is the relay port of the connector (Pin 13 of CN4501) between the Display MAIN Assy and Display POWER SUPPLY Unit high (3.4 V)?

[SM for the Display]
Failure analysis of the Display MAIN Assy => PM2

[SM for the Display]
Failure analysis of the Display POWER SUPPLY Unit => PP2

PD/SD-Related Problems



The red LED on the Display flashes.

[SM for the Display]
See “5.3 DIAGNOSIS OF PD (POWER-DOWN).”

The red LED on the MR flashes.

[SM for the MR]
See “3.3 DIAGNOSIS OF PD (POWER-DOWN).”

The blue LED on the Display flashes.

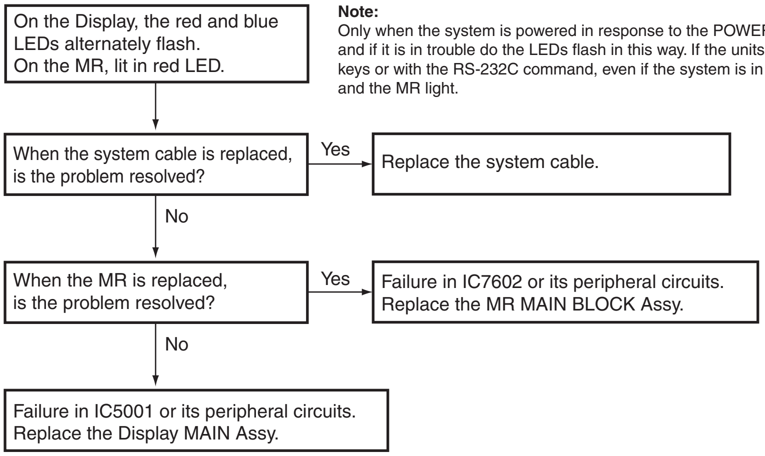
[SM for the Display]
See “5.4 DIAGNOSIS OF SD (SHUTDOWN).”

The blue LED on the MR flashes.

[SM for the MR]
See “3.4 DIAGNOSIS OF SD (SHUTDOWN).”

Power-down will not be activated if the drive is off.

System-Connection-Related Problems



On the Display, the red and blue LEDs alternately flash.
On the MR, lit in red LED.

When the system cable is replaced, is the problem resolved?

Replace the system cable.

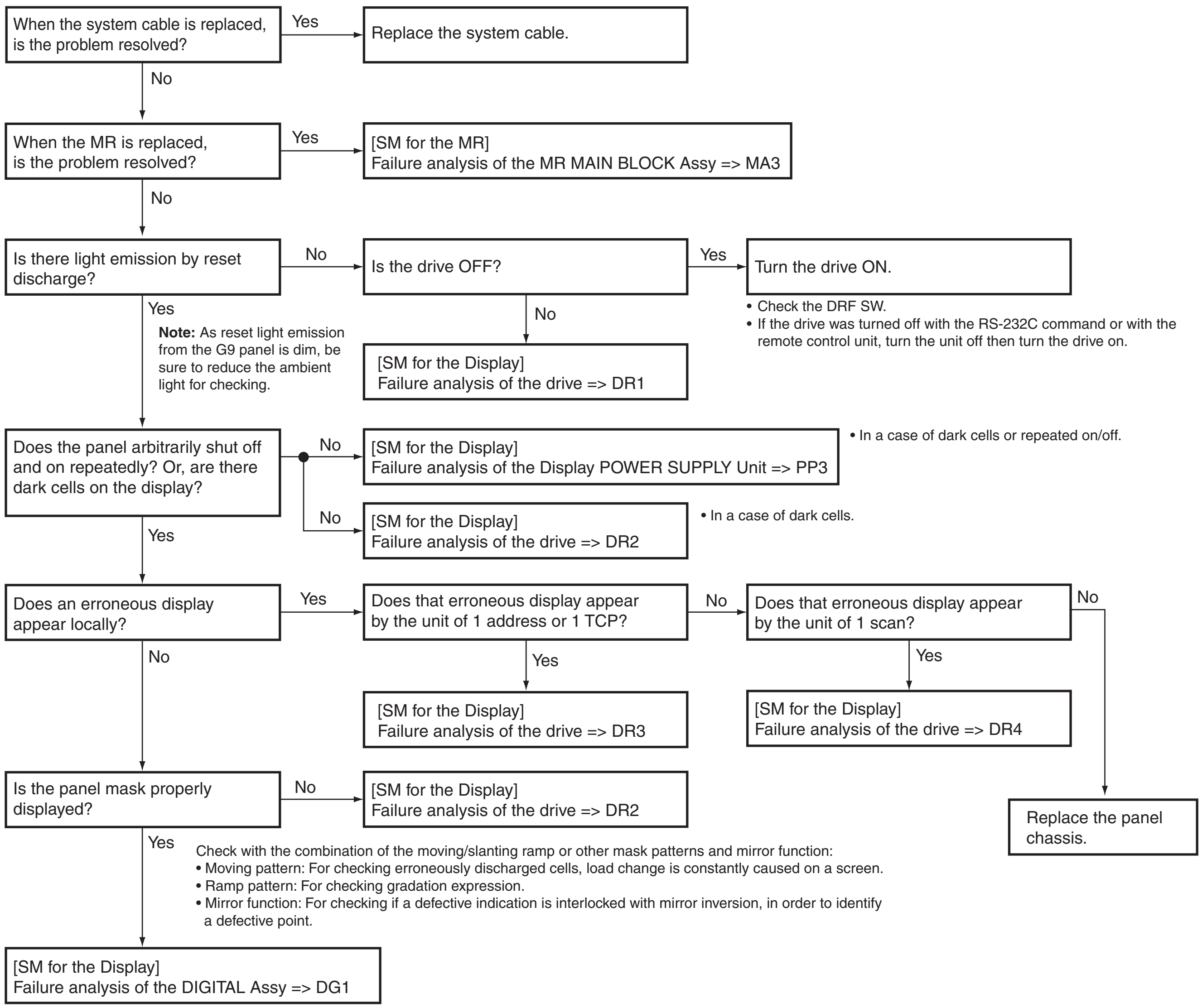
When the MR is replaced, is the problem resolved?

Failure in IC7602 or its peripheral circuits.
Replace the MR MAIN BLOCK Assy.

Failure in IC5001 or its peripheral circuits.
Replace the Display MAIN Assy.

Note:
Only when the system is powered in response to the POWER key on the remote control unit and if it is in trouble do the LEDs flash in this way. If the units are turned on with their POWER keys or with the RS-232C command, even if the system is in failure, the red LEDs on the display and the MR light.

Video-Display-Related Problems


When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
[SM for the MR] Failure analysis of the MR MAIN BLOCK Assy => MA3
No
Is there light emission by reset discharge?
No
Is the drive OFF?
Yes
Turn the drive ON.
No
[SM for the Display] Failure analysis of the drive => DR1
Yes
Does the panel arbitrarily shut off and on repeatedly? Or, are there dark cells on the display?
No
[SM for the Display] Failure analysis of the Display POWER SUPPLY Unit => PP3
No
[SM for the Display] Failure analysis of the drive => DR2
Yes
Does an erroneous display appear locally?
Yes
Does that erroneous display appear by the unit of 1 address or 1 TCP?
No
Does that erroneous display appear by the unit of 1 scan?
No
Yes
[SM for the Display] Failure analysis of the drive => DR3
Yes
[SM for the Display] Failure analysis of the drive => DR4
No
Is the panel mask properly displayed?
No
[SM for the Display] Failure analysis of the drive => DR2
Replace the panel chassis.
Yes
[SM for the Display] Failure analysis of the DIGITAL Assy => DG1

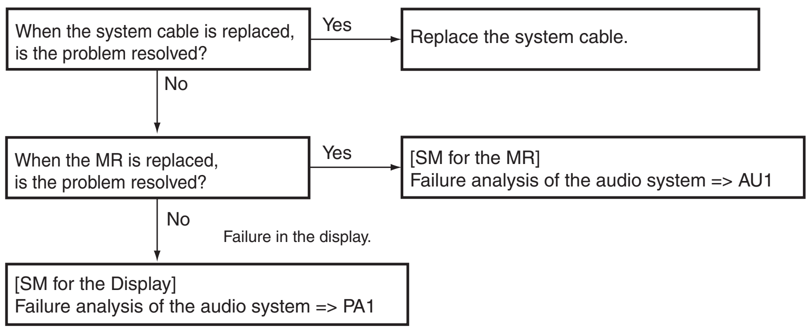
- Check the DRF SW.
- If the drive was turned off with the RS-232C command or with the remote control unit, turn the unit off then turn the drive on.

Note: As reset light emission from the G9 panel is dim, be sure to reduce the ambient light for checking.

- In a case of dark cells or repeated on/off.
- In a case of dark cells.

Check with the combination of the moving/slanting ramp or other mask patterns and mirror function:
- Moving pattern: For checking erroneously discharged cells, load change is constantly caused on a screen.
- Ramp pattern: For checking gradation expression.
- Mirror function: For checking if a defective indication is interlocked with mirror inversion, in order to identify a defective point.

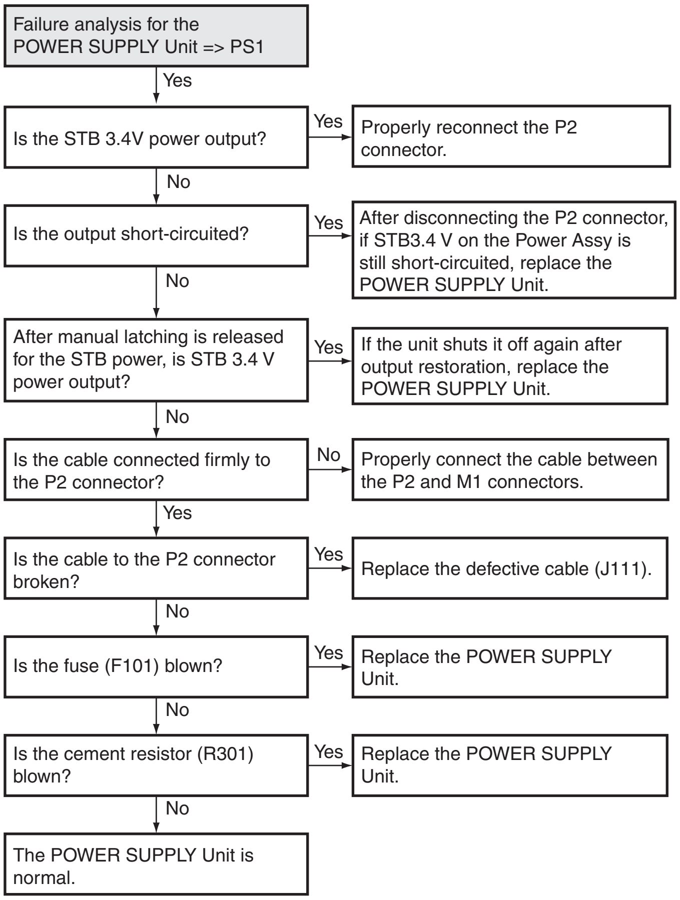
Audio-Related Problems


When the system cable is replaced, is the problem resolved?
Yes
Replace the system cable.
No
When the MR is replaced, is the problem resolved?
Yes
[SM for the MR] Failure analysis of the audio system => AU1
No
[SM for the Display] Failure analysis of the audio system => PA1

Failure in the display.

[2] POWER SUPPLY UNIT

Flowchart of Failure Analysis for The POWER SUPPLY Unit


Failure analysis for the POWER SUPPLY Unit => PS1
Yes
Is the STB 3.4V power output?
Yes
Properly reconnect the P2 connector.
No
Is the output short-circuited?
Yes
After disconnecting the P2 connector, if STB3.4 V on the Power Assy is still short-circuited, replace the POWER SUPPLY Unit.
No
After manual latching is released for the STB power, is STB 3.4 V power output?
Yes
If the unit shuts it off again after output restoration, replace the POWER SUPPLY Unit.
No
Is the cable connected firmly to the P2 connector?
No
Properly connect the cable between the P2 and M1 connectors.
Yes
Is the cable to the P2 connector broken?
Yes
Replace the defective cable (J111).
No
Is the fuse (F101) blown?
Yes
Replace the POWER SUPPLY Unit.
No
Is the cement resistor (R301) blown?
Yes
Replace the POWER SUPPLY Unit.
No
The POWER SUPPLY Unit is normal.

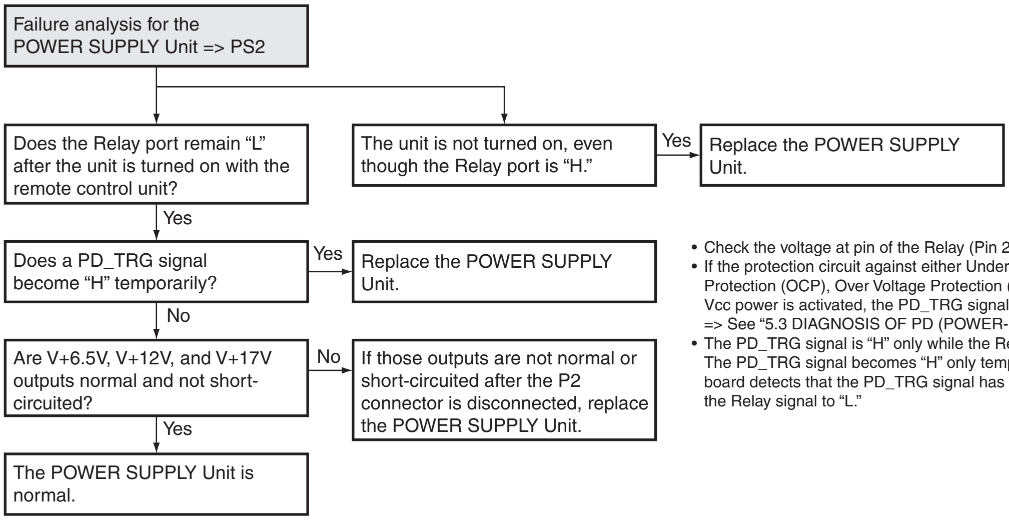
- A cause of failure may be that STB3.4 V voltage is below 3 V (does not reach the specified value).
- If STB3.4 V voltage is not output, other four voltages (STB5.1 V, V+6.5 V, V+12 V, and V+17 V) are not output.

- If Standby power is latched up for an extended period, the protection against over voltage or over heat for STB3.4 V has been activated.

- Check the voltage at the MAIN BLOCK Assy and POWER SUPPLY Unit.

- In this case, failure in the RC101 rectifier diode is suspected.

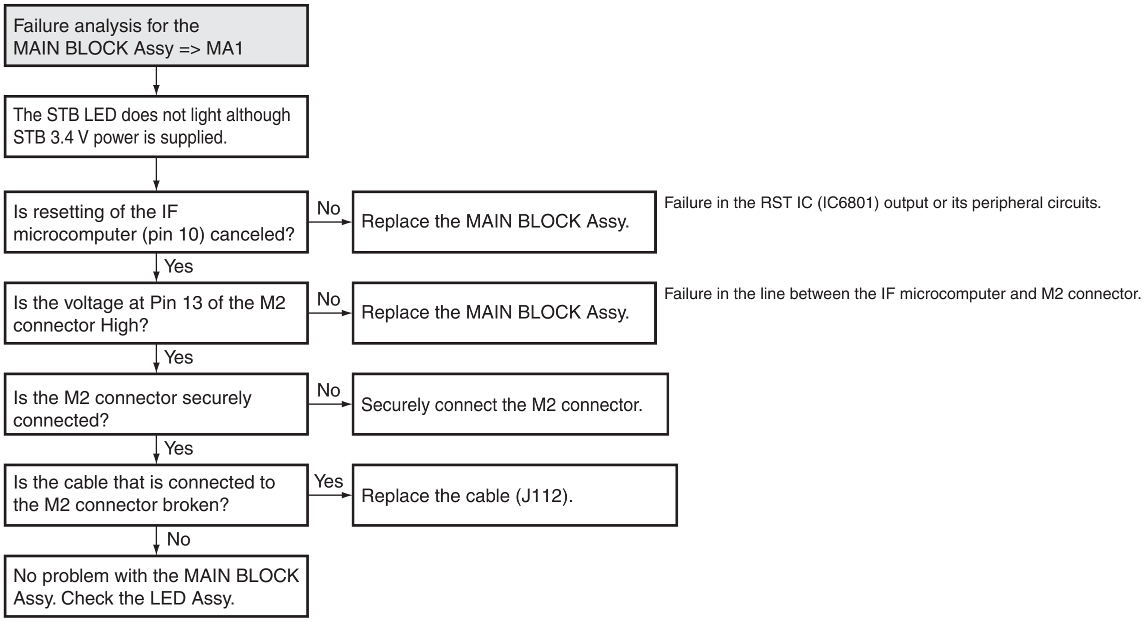
- Check the resistance between the two electrodes of the cement resistor, using a tester.
  If the resistor is damaged, a failure in Z121 (STB power IC) or Q301 (Vcc power switching FET) by short-circuiting is suspected.

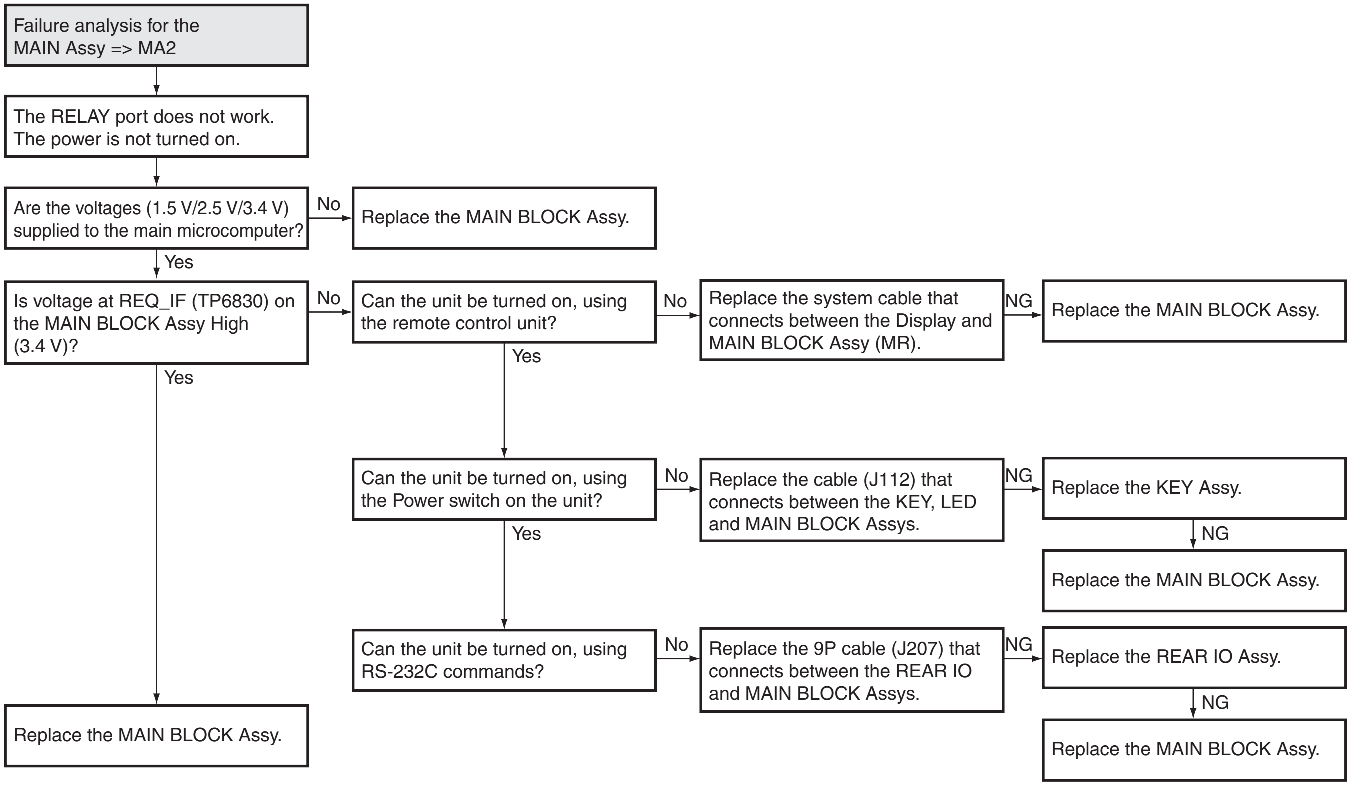

Failure analysis for the POWER SUPPLY Unit => PS2
Does the Relay port remain “L” after the unit is turned on with the remote control unit?
The unit is not turned on, even though the Relay port is “H.”
Yes
Replace the POWER SUPPLY Unit.
Yes
Does a PD_TRG signal become “H” temporarily?
Yes
Replace the POWER SUPPLY Unit.
No
Are V+6.5V, V+12V, and V+17V outputs normal and not short-circuited?
No
If those outputs are not normal or short-circuited after the P2 connector is disconnected, replace the POWER SUPPLY Unit.
Yes
The POWER SUPPLY Unit is normal.

- Check the voltage at pin of the Relay (Pin 2 of P2). (Voltage: 3 to 3.4 V)
- If the protection circuit against either Under Voltage Protection (UVP), Over Current Protection (OCP), Over Voltage Protection (OVP), or Thermal Shut Down (TSD) for Vcc power is activated, the PD_TRG signal becomes “H.”
  => See “5.3 DIAGNOSIS OF PD (POWER-DOWN).”
- The PD_TRG signal is “H” only while the Relay signal is “H.”
  The PD_TRG signal becomes “H” only temporarily, because as soon as the main board detects that the PD_TRG signal has become “H,” it issues a command to set the Relay signal to “L.”

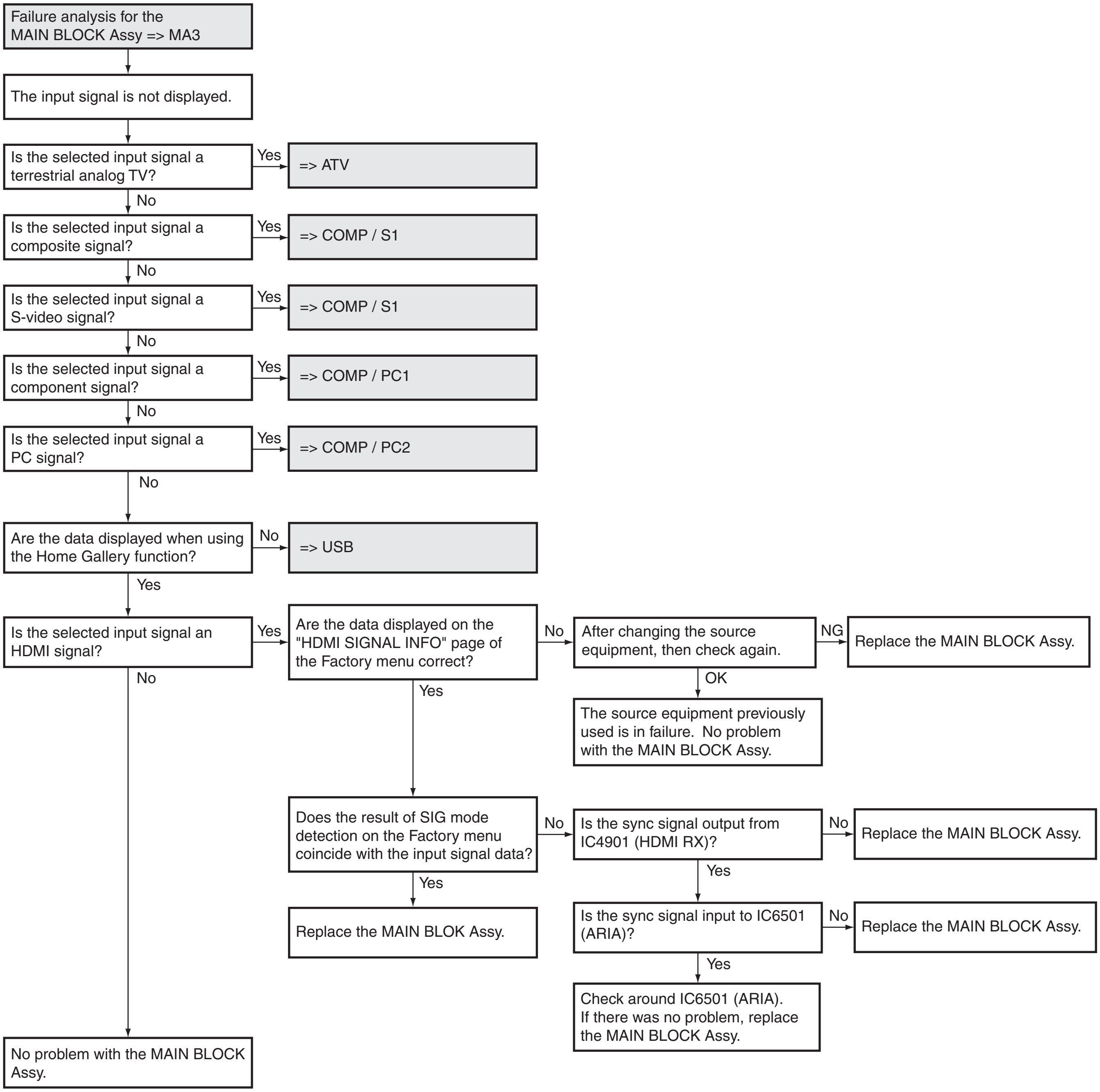
[3] MAIN BLOCK ASSY

Flowchart of Failure Analysis for The MAIN BLOCK Assy


Failure analysis for the MAIN BLOCK Assy => MA1
The STB LED does not light although STB 3.4 V power is supplied.
Is resetting of the IF microcomputer (pin 10) canceled?
No
Replace the MAIN BLOCK Assy.
Failure in the RST IC (IC6801) output or its peripheral circuits.
Yes
Is the voltage at Pin 13 of the M2 connector High?
No
Replace the MAIN BLOCK Assy.
Failure in the line between the IF microcomputer and M2 connector.
Yes
Is the M2 connector securely connected?
No
Securely connect the M2 connector.
Yes
Is the cable that is connected to the M2 connector broken?
Yes
Replace the cable (J112).
No
No problem with the MAIN BLOCK Assy. Check the LED Assy.

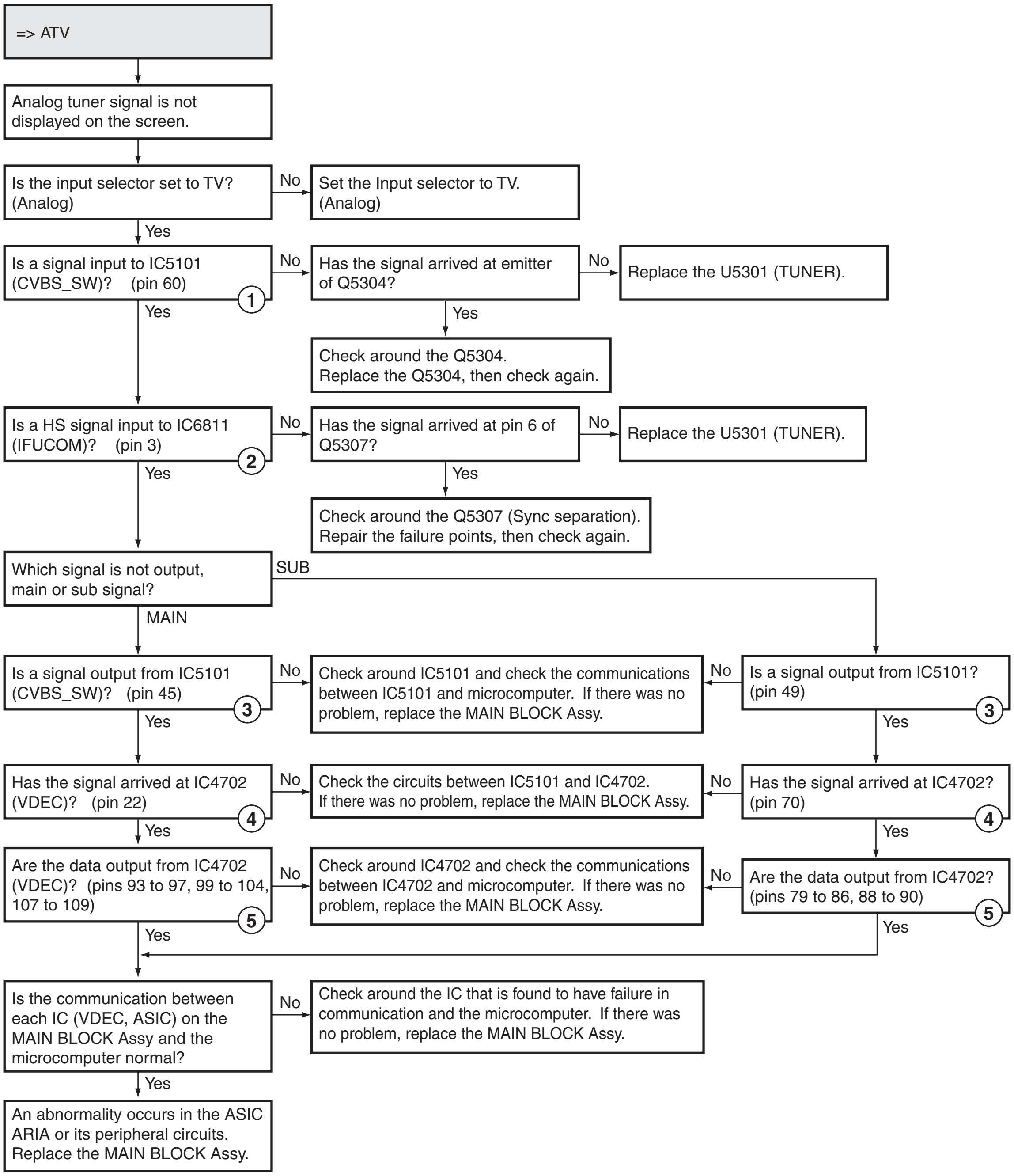

Failure analysis for the MAIN Assy => MA2
The RELAY port does not work. The power is not turned on.
Are the voltages (1.5 V/2.5 V/3.4 V) supplied to the main microcomputer?
No
Replace the MAIN BLOCK Assy.
Yes
Is voltage at REQ_IF (TP6830) on the MAIN BLOCK Assy High (3.4 V)?
No
Can the unit be turned on, using the remote control unit?
No
Replace the system cable that connects between the Display and MAIN BLOCK Assy (MR).
NG
Replace the MAIN BLOCK Assy.
Yes
Can the unit be turned on, using the Power switch on the unit?
No
Replace the cable (J112) that connects between the KEY, LED and MAIN BLOCK Assys.
NG
Replace the KEY Assy.
NG
Replace the MAIN BLOCK Assy.
Yes
Can the unit be turned on, using RS-232C commands?
No
Replace the 9P cable (J207) that connects between the REAR IO and MAIN BLOCK Assys.
NG
Replace the REAR IO Assy.
NG
Replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOCK Assy.

Flowchart of Failure Analysis for The MAIN BLOCK Assy


Failure analysis for the MAIN BLOCK Assy => MA3
The input signal is not displayed.
Is the selected input signal a terrestrial analog TV?
Yes
=> ATV
No
Is the selected input signal a composite signal?
Yes
=> COMP / S1
No
Is the selected input signal a S-video signal?
Yes
=> COMP / S1
No
Is the selected input signal a component signal?
Yes
=> COMP / PC1
No
Is the selected input signal a PC signal?
Yes
=> COMP / PC2
No
Are the data displayed when using the Home Gallery function?
No
=> USB
Yes
Is the selected input signal an HDMI signal?
Yes
Are the data displayed on the "HDMI SIGNAL INFO" page of the Factory menu correct?
No
After changing the source equipment, then check again.
NG
Replace the MAIN BLOCK Assy.
OK
The source equipment previously used is in failure. No problem with the MAIN BLOCK Assy.
Yes
Does the result of SIG mode detection on the Factory menu coincide with the input signal data?
No
Is the sync signal output from IC4901 (HDMI RX)?
No
Replace the MAIN BLOCK Assy.
Yes
Is the sync signal input to IC6501 (ARIA)?
No
Replace the MAIN BLOCK Assy.
Yes
Check around IC6501 (ARIA). If there was no problem, replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOK Assy.
No
No problem with the MAIN BLOCK Assy.

[4] VIDEO SYSTEM

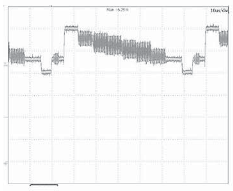
Flowchart of Failure Analysis for The Video System


=> ATV
Analog tuner signal is not displayed on the screen.
Is the input selector set to TV? (Analog)
No
Set the Input selector to TV. (Analog)
Yes
Is a signal input to IC5101 (CVBS_SW)? (pin 60) ①
No
Has the signal arrived at emitter of Q5304?
No
Replace the U5301 (TUNER).
Yes
Check around the Q5304. Replace the Q5304, then check again.
Yes
Is a HS signal input to IC6811 (IFUCOM)? (pin 3) ②
No
Has the signal arrived at pin 6 of Q5307?
No
Replace the U5301 (TUNER).
Yes
Check around the Q5307 (Sync separation). Repair the failure points, then check again.
Yes
Which signal is not output, main or sub signal?
SUB
MAIN
Is a signal output from IC5101 (CVBS_SW)? (pin 45) ③
No
Check around IC5101 and check the communications between IC5101 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
No
Is a signal output from IC5101? (pin 49) ③
Yes
Yes
Has the signal arrived at IC4702 (VDEC)? (pin 22) ④
No
Check the circuits between IC5101 and IC4702. If there was no problem, replace the MAIN BLOCK Assy.
No
Has the signal arrived at IC4702? (pin 70) ④
Yes
Yes
Are the data output from IC4702 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109) ⑤
No
Check around IC4702 and check the communications between IC4702 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
No
Are the data output from IC4702? (pins 79 to 86, 88 to 90) ⑤
Yes
Yes
Is the communication between each IC (VDEC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
An abnormality occurs in the ASIC ARIA or its peripheral circuits. Replace the MAIN BLOCK Assy.

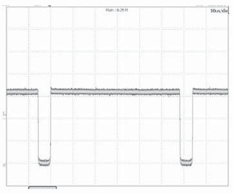
• Waveforms

Input signal: PAL Color-bar (Analog tuner)

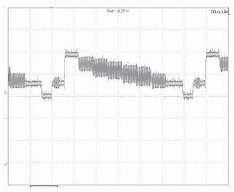
① **IC5101 - pin 60 (in)**
V: 500 mV/div H: 10 µsec/div



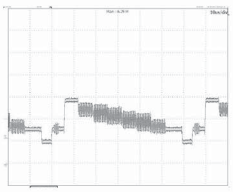
② **IC6811 - pin 3**
V: 1 V/div H: 10 µsec/div



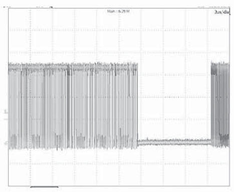
③ **IC5101 - pins 45, 49 (out)**
V: 500 mV/div H: 10 µsec/div

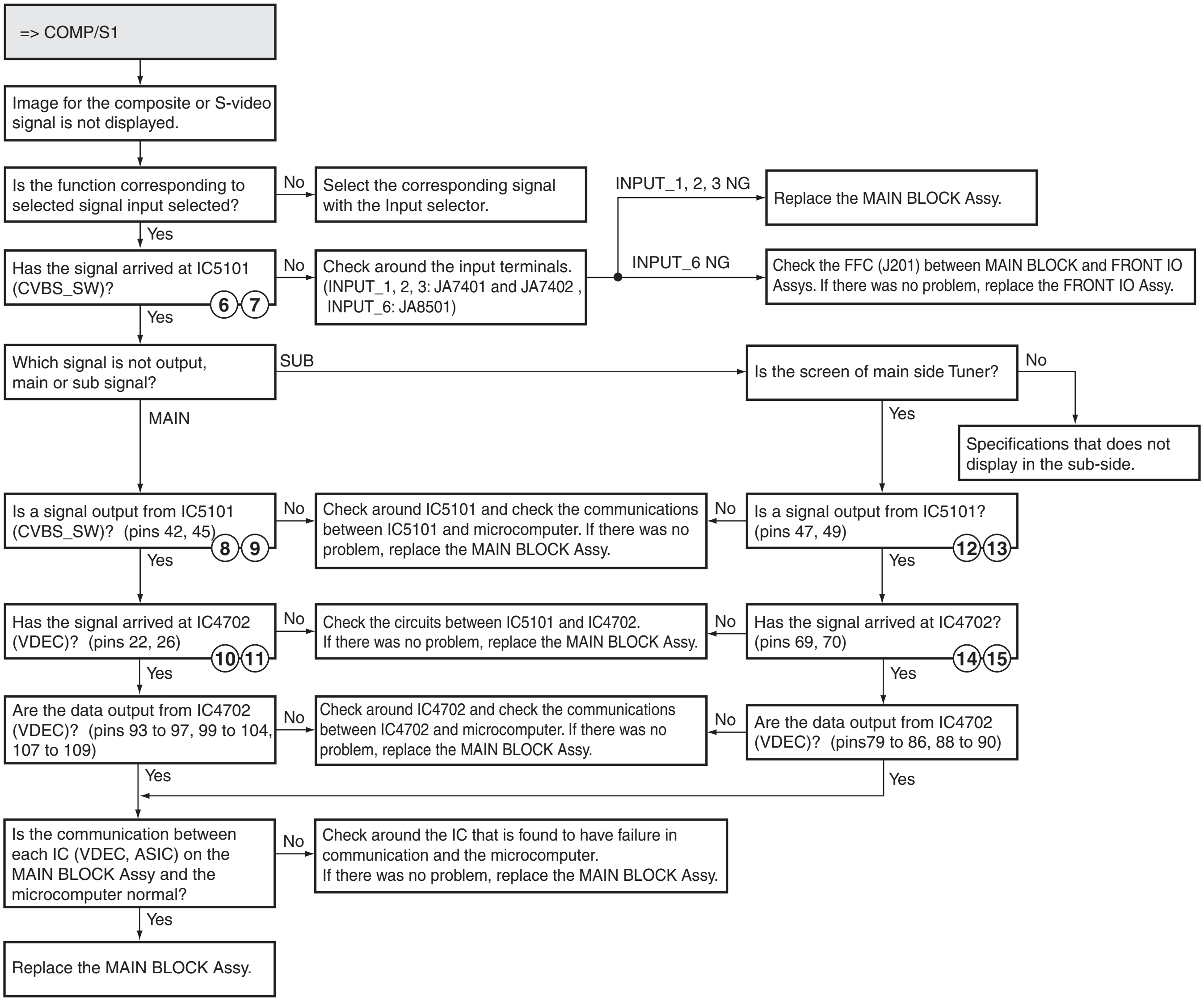


④ **IC4702 - pins 22, 70**
V: 500 mV/div H: 10 µsec/div



⑤ **IC4702 - pins 93, 79 (656 out)**
V: 1 V/div H: 2 µsec/div





=> COMP/S1

Image for the composite or S-video signal is not displayed.

Is the function corresponding to selected signal input selected?

Select the corresponding signal with the Input selector.

Has the signal arrived at IC5101 (CVBS_SW)? ⑥⑦

Check around the input terminals. (INPUT_1, 2, 3: JA7401 and JA7402 , INPUT_6: JA8501)

Replace the MAIN BLOCK Assy.

Check the FFC (J201) between MAIN BLOCK and FRONT IO Assys. If there was no problem, replace the FRONT IO Assy.

Which signal is not output, main or sub signal?

Is the screen of main side Tuner?

Specifications that does not display in the sub-side.

Is a signal output from IC5101 (CVBS_SW)? (pins 42, 45) ⑧⑨

Check around IC5101 and check the communications between IC5101 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

Is a signal output from IC5101? (pins 47, 49) ⑫⑬

Has the signal arrived at IC4702 (VDEC)? (pins 22, 26) ⑩⑪

Check the circuits between IC5101 and IC4702. If there was no problem, replace the MAIN BLOCK Assy.

Has the signal arrived at IC4702? (pins 69, 70) ⑭⑮

Are the data output from IC4702 (VDEC)? (pins 93 to 97, 99 to 104, 107 to 109)

Check around IC4702 and check the communications between IC4702 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

Are the data output from IC4702 (VDEC)? (pins79 to 86, 88 to 90)

Is the communication between each IC (VDEC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?

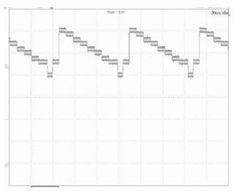
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

Replace the MAIN BLOCK Assy.

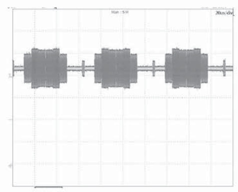
• Waveforms

Input signal: PAL Color-bar (S termial)

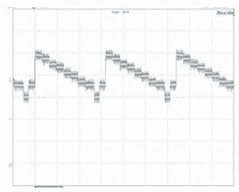
⑥ **IC5101 - pins 74, 87, 93 (Y)**
V: 500 mV/div H: 20 μsec/div



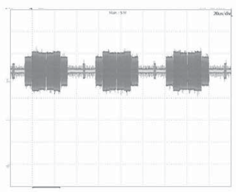
⑦ **IC5101 - pins 77, 89, 95 (C)**
V: 500 mV/div H: 20 μsec/div



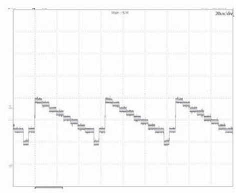
⑧ **IC5101 - pin 45 (Main Y)**
V: 500 mV/div H: 20 μsec/div



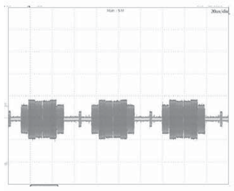
⑨ **IC5101 - pin 42 (Main C)**
V: 500 mV/div H: 20 μsec/div



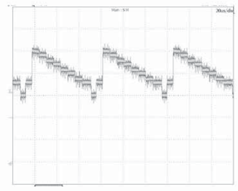
⑩ **IC4702 - pin 22 (Main Y)**
V: 500 mV/div H: 20 μsec/div



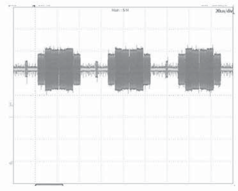
⑪ **IC4702 - pin 26 (Main C)**
V: 500 mV/div H: 20 μsec/div



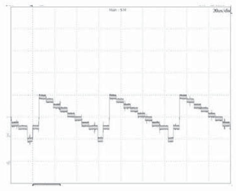
⑫ **IC5101 - pin 49 (Sub Y)**
V: 500 mV/div H: 20 μsec/div



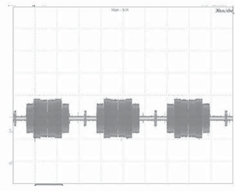
⑬ **IC5101 - pin 47 (Sub C)**
V: 500 mV/div H: 20 μsec/div

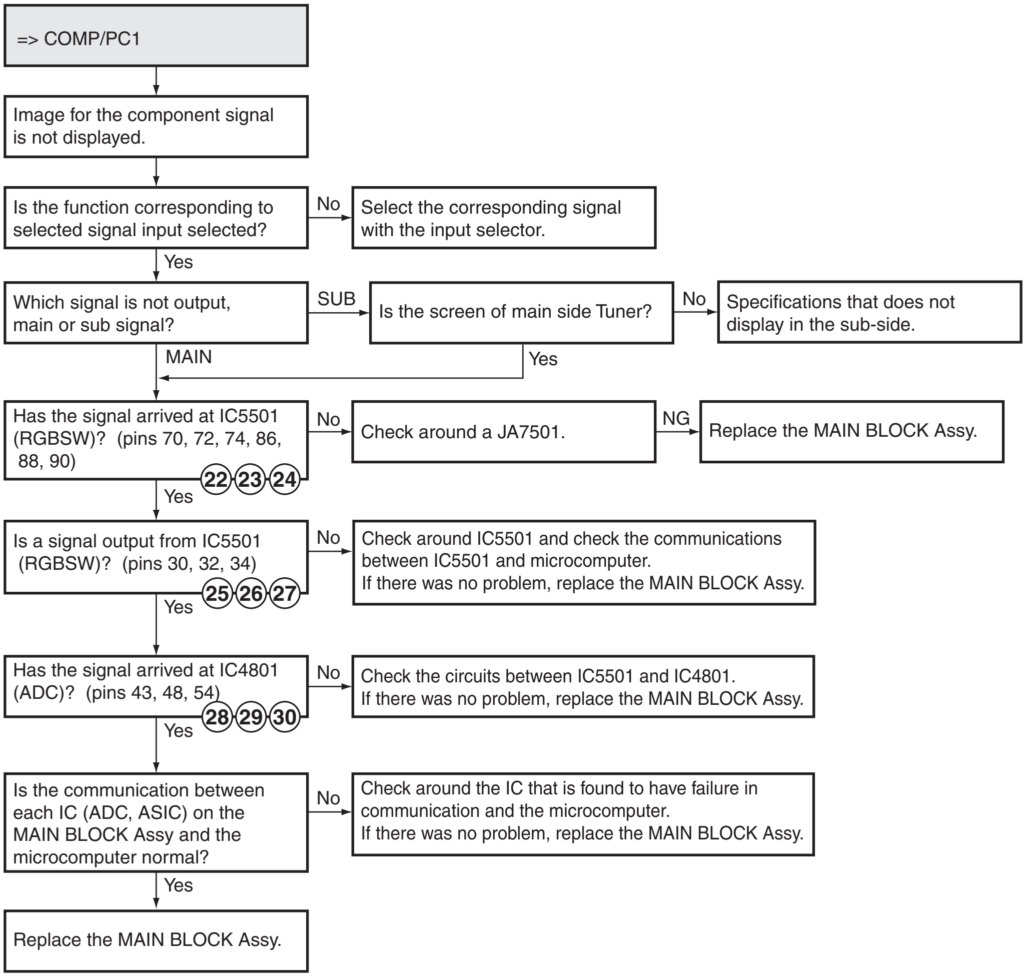


⑭ **IC4702 - pin 70 (Sub Y)**
V: 500 mV/div H: 20 μsec/div



⑮ **IC4702 - pin 69 (Sub C)**
V: 500 mV/div H: 20 μsec/div

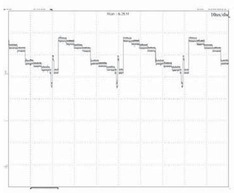



=> COMP/PC1
Image for the component signal is not displayed.
Is the function corresponding to selected signal input selected?
No
Select the corresponding signal with the input selector.
Yes
Which signal is not output, main or sub signal?
SUB
Is the screen of main side Tuner?
No
Specifications that does not display in the sub-side.
MAIN
Yes
Has the signal arrived at IC5501 (RGBSW)? (pins 70, 72, 74, 86, 88, 90)
㉒ ㉓ ㉔
No
Check around a JA7501.
NG
Replace the MAIN BLOCK Assy.
Yes
Is a signal output from IC5501 (RGBSW)? (pins 30, 32, 34)
㉕ ㉖ ㉗
No
Check around IC5501 and check the communications between IC5501 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Has the signal arrived at IC4801 (ADC)? (pins 43, 48, 54)
㉘ ㉙ ㉚
No
Check the circuits between IC5501 and IC4801. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Is the communication between each IC (ADC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?
No
Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.
Yes
Replace the MAIN BLOCK Assy.

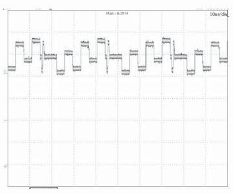
● Waveforms

Input signal: Color-bar (Component 720p/50 Hz)

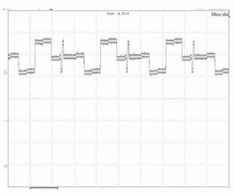
㉒ **IC5501 - pins 70, 86 (Y)**
V: 500 mV/div H: 10 µsec/div



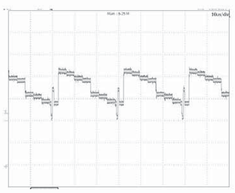
㉓ **IC5501 - pins 72, 88 (Pb)**
V: 500 mV/div H: 10 µsec/div



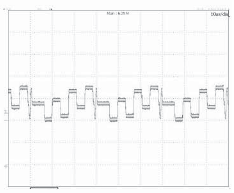
㉔ **IC5501 - pins 74, 90 (Pr)**
V: 500 mV/div H: 10 µsec/div



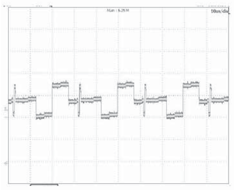
㉕ **IC5501 - pin 34 (Y)**
V: 500 mV/div H: 10 µsec/div



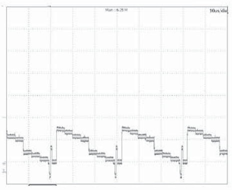
㉖ **IC5501 - pin 32 (Pb)**
V: 500 mV/div H: 10 µsec/div



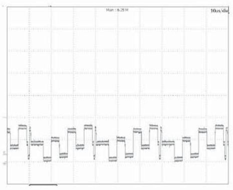
㉗ **IC5501 - pin 30 (Pr)**
V: 500 mV/div H: 10 µsec/div



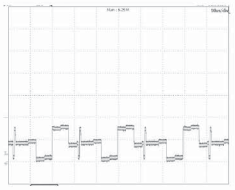
㉘ **IC4801 - pin 48 (Y)**
V: 500 mV/div H: 10 µsec/div



㉙ **IC4801 - pin 43 (Pb)**
V: 500 mV/div H: 10 µsec/div



㉚ **IC4801 - pin 54 (Pr)**
V: 500 mV/div H: 10 µsec/div



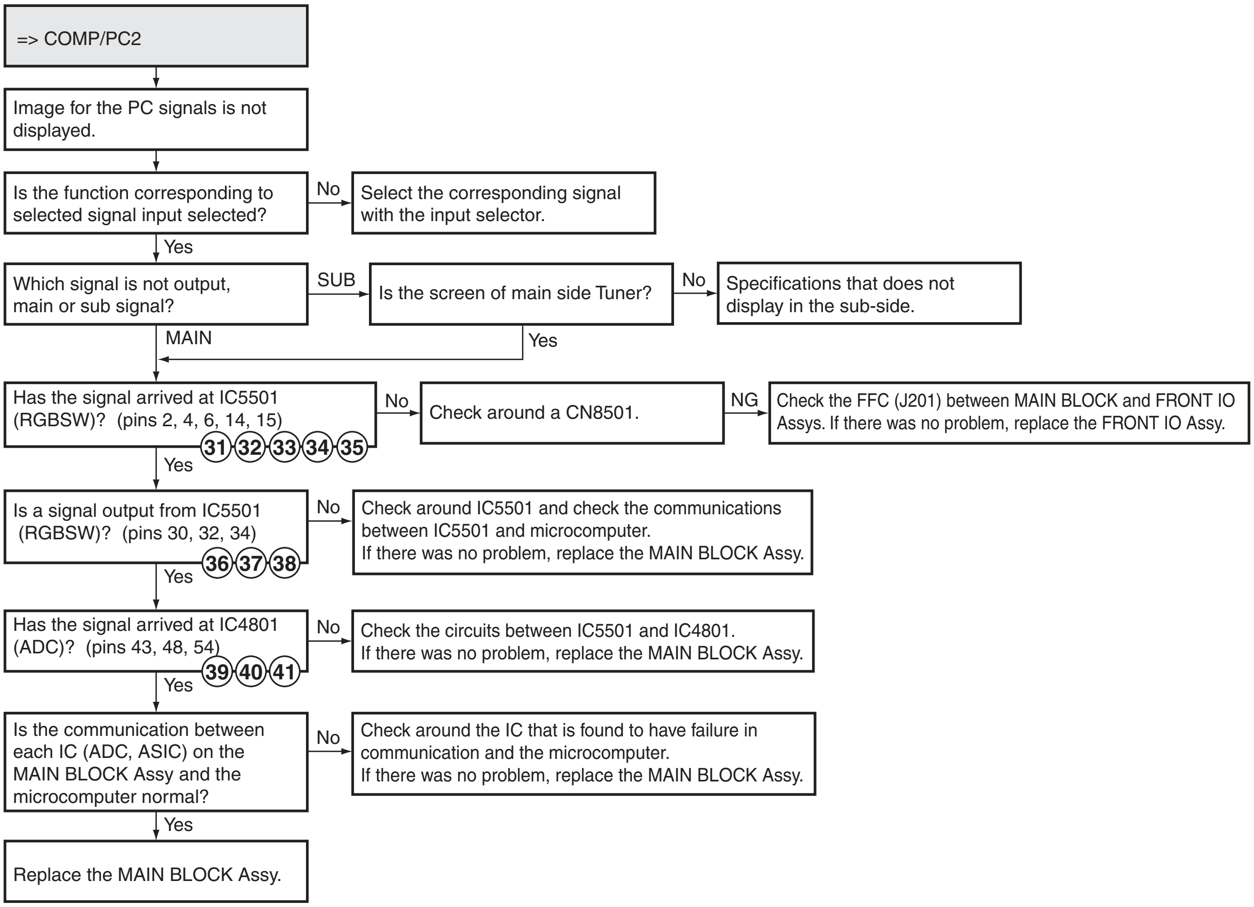

=> COMP/PC2

Image for the PC signals is not displayed.

Is the function corresponding to selected signal input selected?

No → Select the corresponding signal with the input selector.

Yes

Which signal is not output, main or sub signal?

SUB → Is the screen of main side Tuner?

No → Specifications that does not display in the sub-side.

Yes

MAIN

Has the signal arrived at IC5501 (RGBSW)? (pins 2, 4, 6, 14, 15) ㉛㉜㉝㉞㉟

No → Check around a CN8501.

NG → Check the FFC (J201) between MAIN BLOCK and FRONT IO Assys. If there was no problem, replace the FRONT IO Assy.

Yes

Is a signal output from IC5501 (RGBSW)? (pins 30, 32, 34) ㊱㊲㊳

No → Check around IC5501 and check the communications between IC5501 and microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

Yes

Has the signal arrived at IC4801 (ADC)? (pins 43, 48, 54) ㊴㊵㊶

No → Check the circuits between IC5501 and IC4801. If there was no problem, replace the MAIN BLOCK Assy.

Yes

Is the communication between each IC (ADC, ASIC) on the MAIN BLOCK Assy and the microcomputer normal?

No → Check around the IC that is found to have failure in communication and the microcomputer. If there was no problem, replace the MAIN BLOCK Assy.

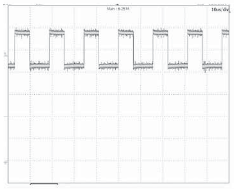
Yes

Replace the MAIN BLOCK Assy.

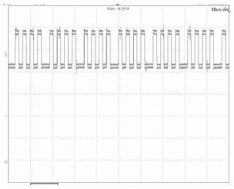
• Waveforms

Input signal: Color-bar (PC SXGA/60 Hz)

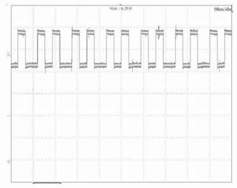
㉛ **IC5501 - pin 2 (G in)**
V: 500 mV/div H: 10 µsec/div



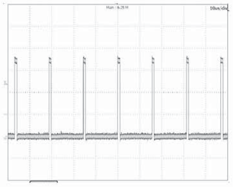
㉜ **IC5501 - pin 4 (B in)**
V: 500 mV/div H: 10 µsec/div



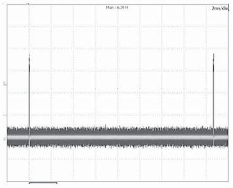
㉝ **IC5501 - pin 6 (R in)**
V: 500 mV/div H: 10 µsec/div



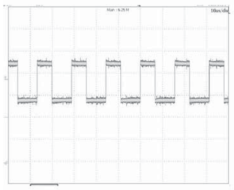
㉞ **IC5501 - pin 14 (HD in)**
V: 1 V/div H: 10 µsec/div
(polarity is no care)



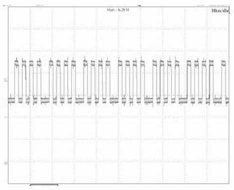
㉟ **IC5501 - pin 15 (VD in)**
V: 1 V/div H: 2 msec/div
(polarity is no care)



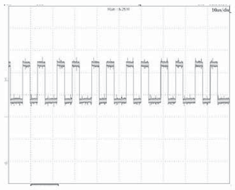
㊱ **IC5501 - pin 34 (G out)**
V: 500 mV/div H: 10 µsec/div



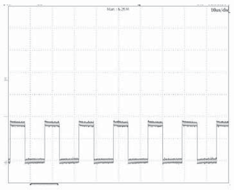
㊲ **IC5501 - pin 32 (B out)**
V: 500 mV/div H: 10 µsec/div



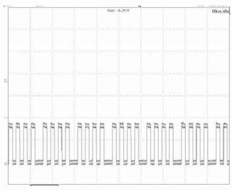
㊳ **IC5501 - pin 30 (R out)**
V: 500 mV/div H: 10 µsec/div



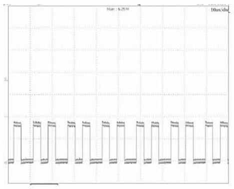
㊴ **IC4801 - pin 48 (G)**
V: 500 mV/div H: 10 µsec/div



㊵ **IC4801 - pin 43 (BCB)**
V: 500 mV/div H: 10 µsec/div

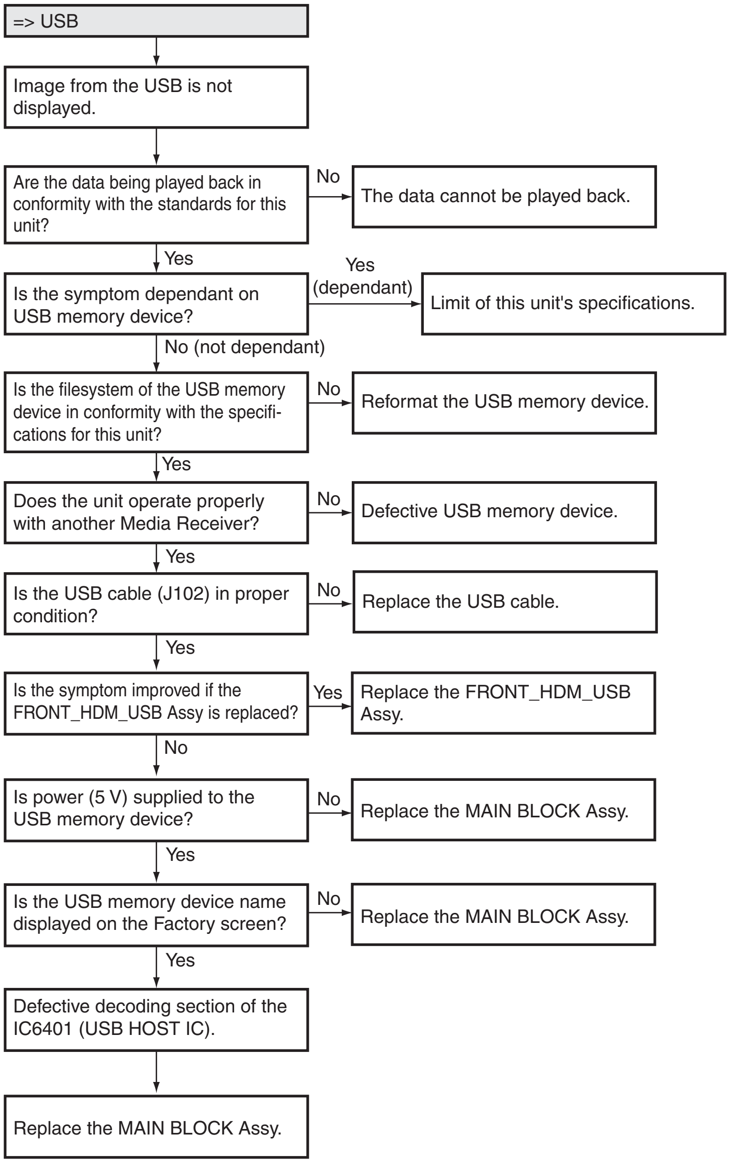


㊶ **IC4801 - pin 54 (RCR)**
V: 500 mV/div H: 10 µsec/div



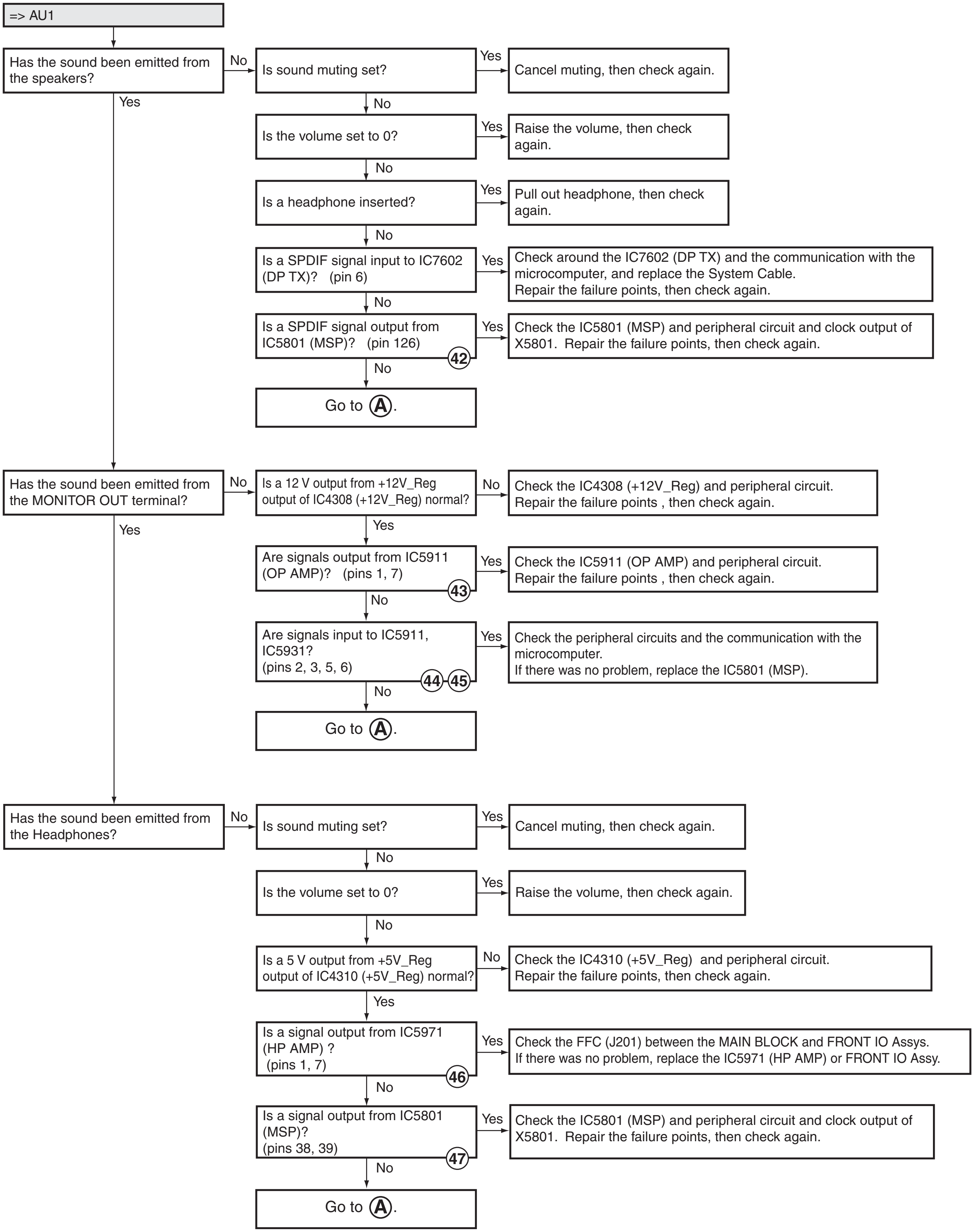
[5] HOME GALLERY

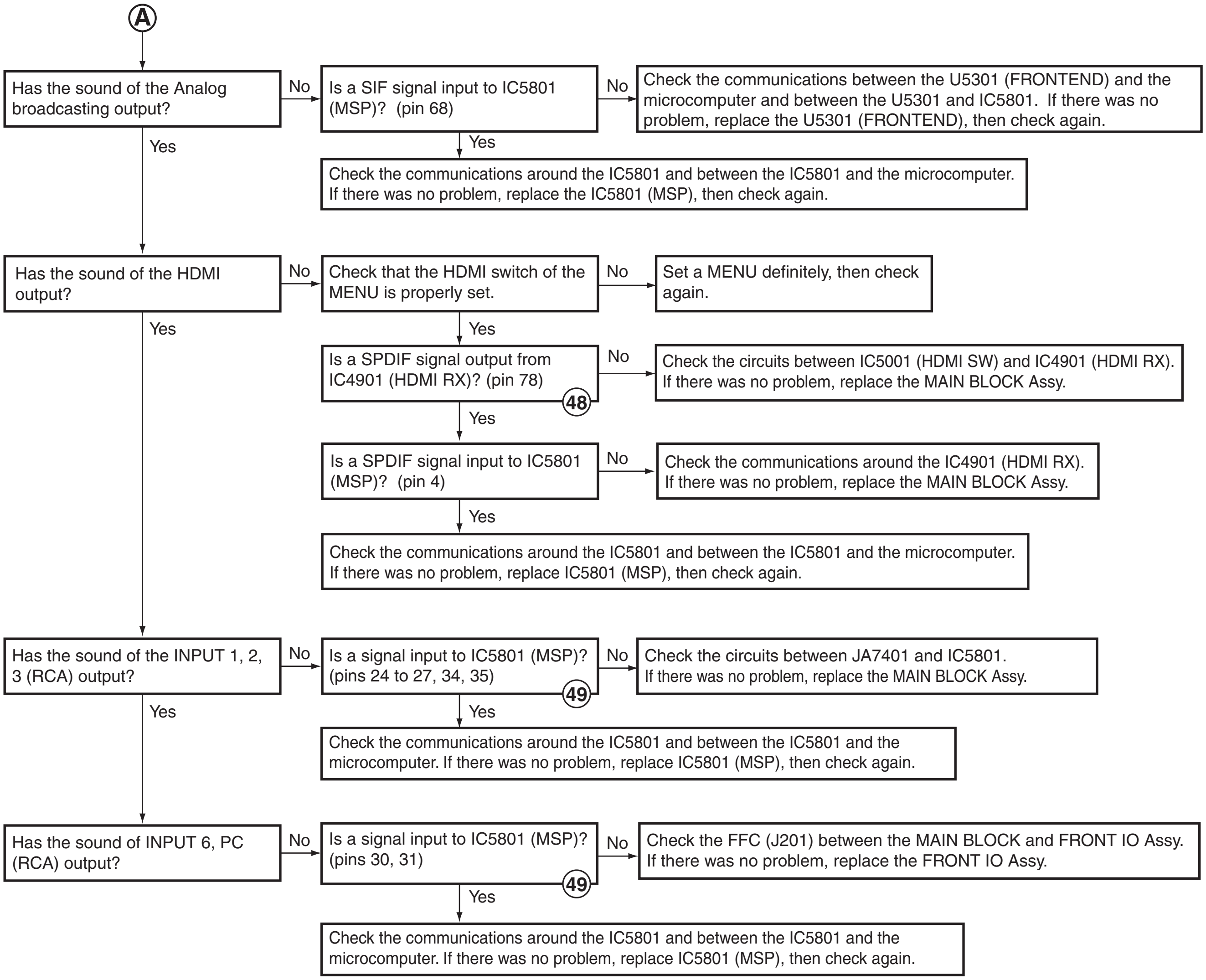
Flowchart of Failure Analysis for The Home Gallery


=> USB
Image from the USB is not displayed.
Are the data being played back in conformity with the standards for this unit?
No
The data cannot be played back.
Yes
Is the symptom dependant on USB memory device?
Yes (dependant)
Limit of this unit's specifications.
No (not dependant)
Is the filesystem of the USB memory device in conformity with the specifications for this unit?
No
Reformat the USB memory device.
Yes
Does the unit operate properly with another Media Receiver?
No
Defective USB memory device.
Yes
Is the USB cable (J102) in proper condition?
No
Replace the USB cable.
Yes
Is the symptom improved if the FRONT_HDM_USB Assy is replaced?
Yes
Replace the FRONT_HDM_USB Assy.
No
Is power (5 V) supplied to the USB memory device?
No
Replace the MAIN BLOCK Assy.
Yes
Is the USB memory device name displayed on the Factory screen?
No
Replace the MAIN BLOCK Assy.
Yes
Defective decoding section of the IC6401 (USB HOST IC).
Replace the MAIN BLOCK Assy.

[6] AUDIO SYSTEM

Flowchart of Failure Analysis for The Audio System


=> AU1
Has the sound been emitted from the speakers?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a headphone inserted?
Yes
Pull out headphone, then check again.
No
Is a SPDIF signal input to IC7602 (DP TX)? (pin 6)
Yes
Check around the IC7602 (DP TX) and the communication with the microcomputer, and replace the System Cable. Repair the failure points, then check again.
No
Is a SPDIF signal output from IC5801 (MSP)? (pin 126)
42
Yes
Check the IC5801 (MSP) and peripheral circuit and clock output of X5801. Repair the failure points, then check again.
No
Go to Ⓐ.
Yes
Has the sound been emitted from the MONITOR OUT terminal?
No
Is a 12 V output from +12V_Reg output of IC4308 (+12V_Reg) normal?
No
Check the IC4308 (+12V_Reg) and peripheral circuit. Repair the failure points , then check again.
Yes
Are signals output from IC5911 (OP AMP)? (pins 1, 7)
43
Yes
Check the IC5911 (OP AMP) and peripheral circuit. Repair the failure points , then check again.
No
Are signals input to IC5911, IC5931? (pins 2, 3, 5, 6)
44
45
Yes
Check the peripheral circuits and the communication with the microcomputer. If there was no problem, replace the IC5801 (MSP).
No
Go to Ⓐ.
Yes
Has the sound been emitted from the Headphones?
No
Is sound muting set?
Yes
Cancel muting, then check again.
No
Is the volume set to 0?
Yes
Raise the volume, then check again.
No
Is a 5 V output from +5V_Reg output of IC4310 (+5V_Reg) normal?
No
Check the IC4310 (+5V_Reg) and peripheral circuit. Repair the failure points, then check again.
Yes
Is a signal output from IC5971 (HP AMP) ? (pins 1, 7)
46
Yes
Check the FFC (J201) between the MAIN BLOCK and FRONT IO Assys. If there was no problem, replace the IC5971 (HP AMP) or FRONT IO Assy.
No
Is a signal output from IC5801 (MSP)? (pins 38, 39)
47
Yes
Check the IC5801 (MSP) and peripheral circuit and clock output of X5801. Repair the failure points, then check again.
No
Go to Ⓐ.



Has the sound of the Analog broadcasting output?

Is a SIF signal input to IC5801 (MSP)? (pin 68)

Check the communications between the U5301 (FRONTEND) and the microcomputer and between the U5301 and IC5801. If there was no problem, replace the U5301 (FRONTEND), then check again.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace the IC5801 (MSP), then check again.

Has the sound of the HDMI output?

Check that the HDMI switch of the MENU is properly set.

Set a MENU definitely, then check again.

Is a SPDIF signal output from IC4901 (HDMI RX)? (pin 78)

Check the circuits between IC5001 (HDMI SW) and IC4901 (HDMI RX). If there was no problem, replace the MAIN BLOCK Assy.

Is a SPDIF signal input to IC5801 (MSP)? (pin 4)

Check the communications around the IC4901 (HDMI RX). If there was no problem, replace the MAIN BLOCK Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace IC5801 (MSP), then check again.

Has the sound of the INPUT 1, 2, 3 (RCA) output?

Is a signal input to IC5801 (MSP)? (pins 24 to 27, 34, 35)

Check the circuits between JA7401 and IC5801. If there was no problem, replace the MAIN BLOCK Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace IC5801 (MSP), then check again.

Has the sound of INPUT 6, PC (RCA) output?

Is a signal input to IC5801 (MSP)? (pins 30, 31)

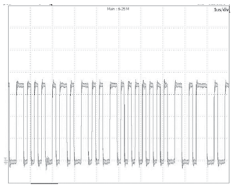
Check the FFC (J201) between the MAIN BLOCK and FRONT IO Assy. If there was no problem, replace the FRONT IO Assy.

Check the communications around the IC5801 and between the IC5801 and the microcomputer. If there was no problem, replace IC5801 (MSP), then check again.

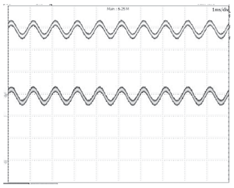
• Waveforms

Input signal: L/R 1 kHz, 0.5 Vrms (VOL 30)

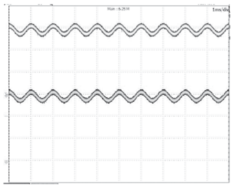
(42) **IC5801 - pin 126**
V: 1 V/div H: 1 μS/div



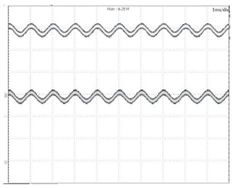
(43) **IC5911 - pins 1, 7**
V: 2 V/div H: 1 mS/div



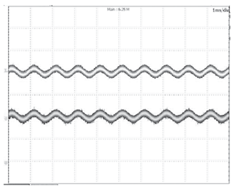
(44) **IC5911 - pins 2, 3**
V: 2 V/div H: 1 mS/div



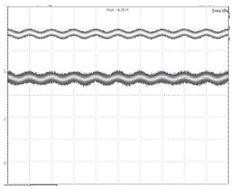
(45) **IC5911 - pins 5, 6**
V: 2 V/div H: 1 mS/div



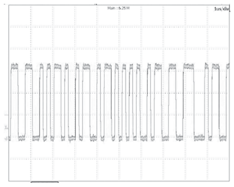
(46) **IC5971 - pins 1, 7**
V: 1 V/div H: 1 mS/div



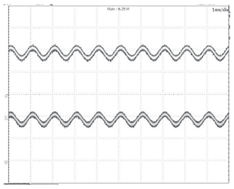
(47) **IC5801 - pins 38, 39**
V: 1 V/div H: 1 mS/div



(48) **IC4901 - pin 78**
V: 2 V/div H: 1 μS/div



(49) **IC5801 - pins 24, 25**
V: 2 V/div H: 1 mS/div



A

B

C

D

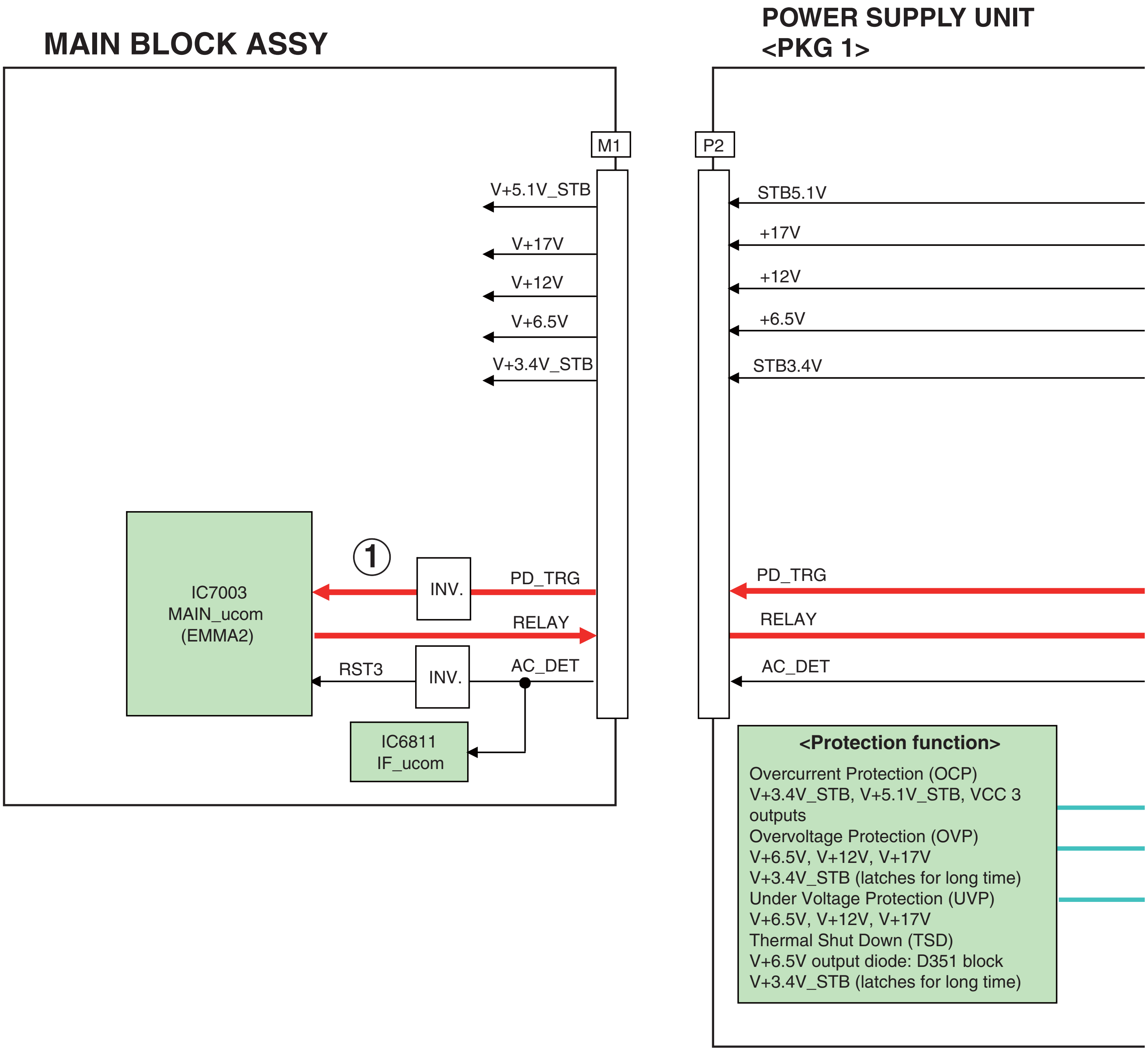
E

F

3.3 DIAGNOSIS OF PD (POWER-DOWN)

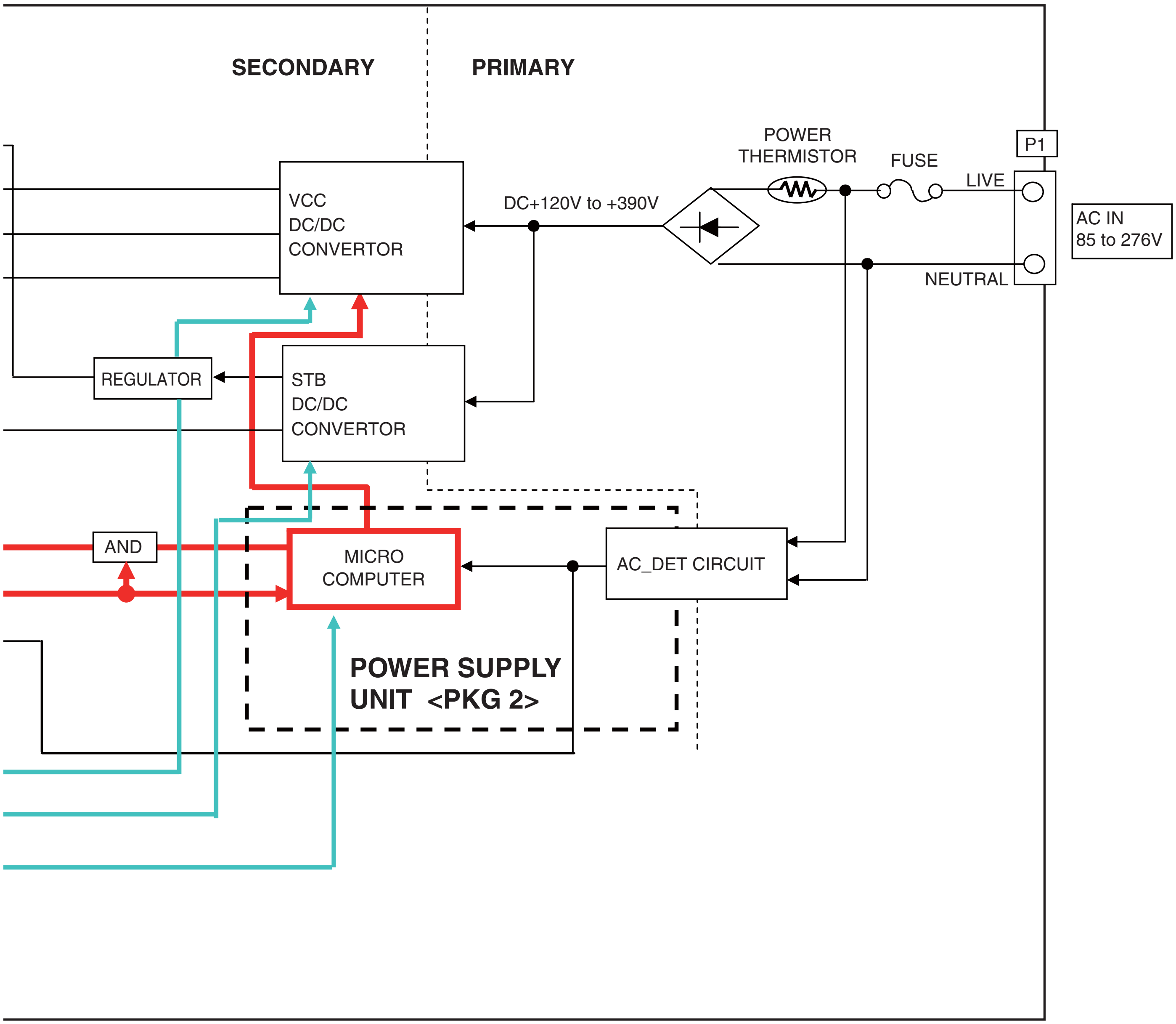
[1] BLOCK DIAGRAM OF THE POWER-DOWN SIGNAL

Note:
The figure ① indicate the number of times the Red LED flashes when power-down occurs in the corresponding route.


MAIN BLOCK ASSY
POWER SUPPLY UNIT
<PKG 1>
M1
P2
V+5.1V_STB
V+17V
V+12V
V+6.5V
V+3.4V_STB
STB5.1V
+17V
+12V
+6.5V
STB3.4V
IC7003
MAIN_ucom
(EMMA2)
①
INV.
PD_TRG
RELAY
RST3
INV.
AC_DET
IC6811
IF_ucom
PD_TRG
RELAY
AC_DET

<Protection function>

Overcurrent Protection (OCP)
V+3.4V_STB, V+5.1V_STB, VCC 3 outputs
Overvoltage Protection (OVP)
V+6.5V, V+12V, V+17V
V+3.4V_STB (latches for long time)
Under Voltage Protection (UVP)
V+6.5V, V+12V, V+17V
Thermal Shut Down (TSD)
V+6.5V output diode: D351 block
V+3.4V_STB (latches for long time)


SECONDARY
PRIMARY
POWER
THERMISTOR
FUSE
LIVE
P1
AC IN
85 to 276V
NEUTRAL
DC+120V to +390V
VCC
DC/DC
CONVERTOR
STB
DC/DC
CONVERTOR
REGULATOR
AND
MICRO
COMPUTER
AC_DET CIRCUIT
POWER SUPPLY
UNIT <PKG 2>

[2] PD (POWER-DOWN) DIAGNOSIS OF FAILURE ANALYSIS

■ How to Distinguish the PD (Power-Down)

About the LED for checking causes of power-down

No LED for checking causes of power-down is provided for the POWER SUPPLY Unit of the MR.
However, by checking the waveforms at terminals of the microcomputer, whether a power-down was caused by failure in the POWER SUPPLY Unit, and if it was, which power system among the four was in failure can be inferred.
The points at which to check waveforms and how to distinguish power-down causes are described below:

<Points at which to Check Waveforms>

Waveforms between Pin 3 of CN801 and GND (secondary radiator, display chassis, etc.)
Refer to the section “Note on Removing the POWER SUPPLY Unit from the Chassis and Method for Resettig Standby Power Latchup” in the “7.2 DISASSEMBLY”.

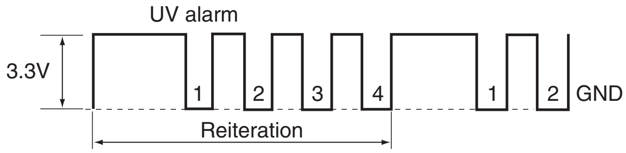
<How to Distinguish>

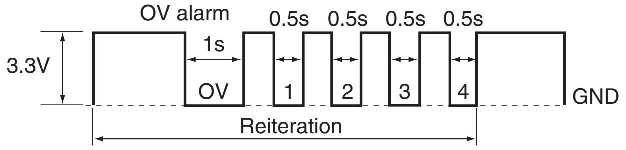
If a power-down was caused by failure in the POWER SUPPLY Unit, a pulse waveform is output at the above-mentioned points. (It is assumed that STB3.4 V power is properly output.)
By counting the frequency of “Lo” in the pulse waveform, the cause of power-down can be identified.

Frequency of “Lo”	Cause	
	Output Voltage	Overvoltage (OV) or Undervoltage (UV)
Once	+12V	OV or UV *
Twice	+17V	OV or UV *
3 times	+6.5V	OV or UV *
4 times	Protection against overheat	

***How to distinguish OV and UV:**
If the first “Lo” duration of a pulse is long (1 s), the cause is OV.
As the three output voltages are electromagnetically linked and interact with one another, the frequency may vary among 1-3, depending on the type of power-down.

Examples:





How to Diagnose the PD

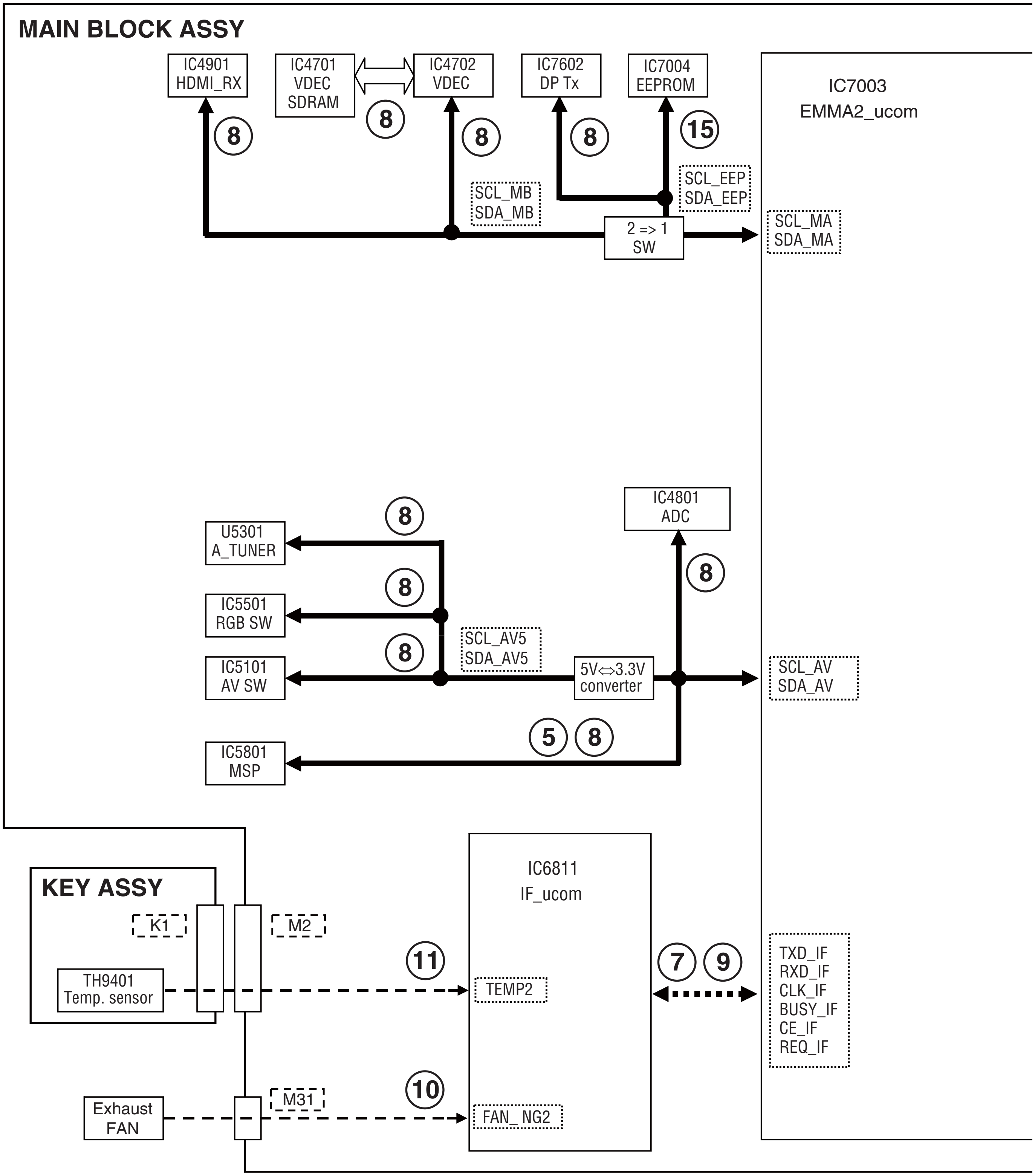
Frequency of LED Flashing	History Indication in Factory Mode	Assy	Cause of power-down (activated protection circuit)	Point to be Checked	Possible Defective Parts
Red, once	MR-PWR	MAIN BLOCK Assy	Overcurrent in 6.5 V power	5V_ANT-REG	IC4305, C4305
				5V_IO-REG	IC4310, C4301
				3CH-DD converter	IC4402 C4405, C4406, C4409, C4463, C4464, C4466 to C4468
				FET	Q4417, Q4416, Q4411
				1CH-DD converter	IC4501, C4517
			Overcurrent in 12 V power	FAN-REG	IC4302, C4342
				8V_IO-REG	IC4309, C4315
				LNB	IC4503
			Overcurrent in 17 V power	12V_IO-REG	IC4308, C4303
			Overcurrent in 3.4 V power	1.8V_IO-REG	IC4604, C4609 C4820, C8103
		POWER SUPPLY Unit	V+6.5V UVP	TP V+6.5V	Voltage drop due to overcurrent on the load side
			V+12V UVP	TP V+12V	Voltage drop due to overcurrent on the load side
			V+17V UVP	TP V+17V	Voltage drop due to overcurrent on the load side
			STB3.4V OCP	TP STB3.4V	C151, C153, C152, D152, or Z152, and abnormal current on the load side that is connected to STB3.4 V power
			STB5.1V OCP	TP STB5.1V	C155 and abnormal current on the load side that is connected to STB5.1 V power And abnormal current on the load side that is connected to STB5.1 V power
			VCC OCP	TP V+6.5V	D351, C351, C352, C353, and abnormal current on the load side that is connected to V+6.5V power
				TP V+12V	D352, C357, C358, and abnormal current on the load side that is connected to V+12V power
				TP V+17V	D353, C359, and abnormal current on the load side that is connected to V+17V power
			STB3.4V OVP	TP STB3.4V	PC121, Z151
			VCC OVP	TP V+6.5V TP V+12V	PC301, Breakage in the line to/from the P2 output connector Z351
			STB3.4V TSD		Z121 control IC and abnormal current on the load side that is connected to STB3.4 V power
			V+6.5V Rectifier diode (D351) TSD		D351 or D352, and abnormal current on the load sides that is connected to V+6.5 V and V+12 V

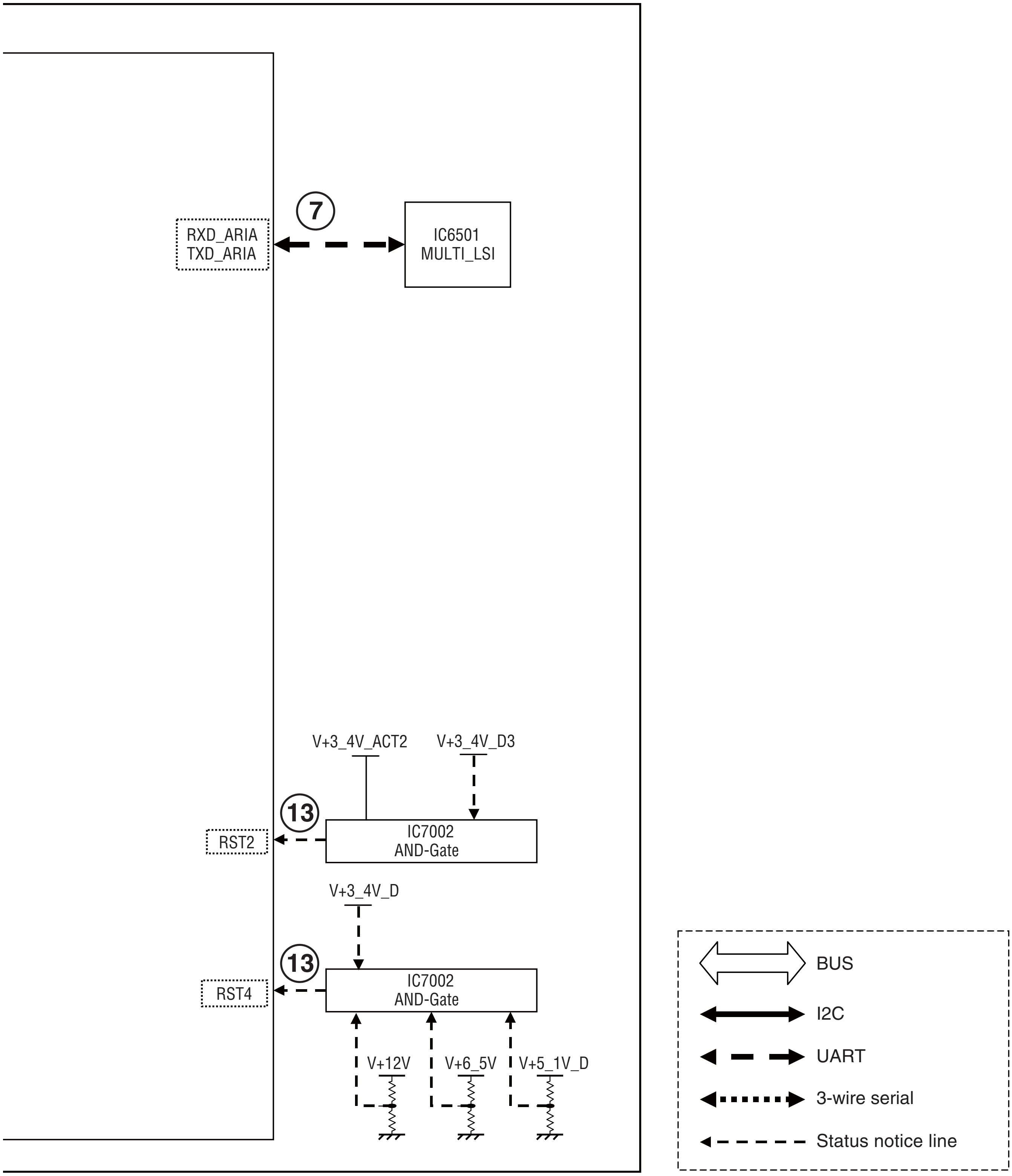
Note: Although replacement of the whole POWER SUPPLY Unit is required (replacement of only defective parts on the POWER SUPPLY Unit is not possible), the circuit symbols are described for reference

3.4 DIAGNOSIS OF SD (SHUTDOWN)

[1] BLOCK DIAGRAM OF THE SHUTDOWN SIGNAL

Note : The figures ① to ⑮ indicate the number of times the Blue LED flashes when shut-down occurs in the corresponding route. ⑫ LED is not flashed.


MAIN BLOCK ASSY
IC4901 HDMI_RX
IC4701 VDEC SDRAM
IC4702 VDEC
IC7602 DP Tx
IC7004 EEPROM
IC7003 EMMA2_ucom
⑧
⑧
⑧
⑧
⑮
SCL_MB SDA_MB
SCL_EEP SDA_EEP
2 => 1 SW
SCL_MA SDA_MA
U5301 A_TUNER
IC5501 RGB SW
IC5101 AV SW
IC5801 MSP
IC4801 ADC
⑧
⑧
⑧
⑧
⑤ ⑧
SCL_AV5 SDA_AV5
5V⇔3.3V converter
SCL_AV SDA_AV
KEY ASSY
K1
M2
TH9401 Temp. sensor
⑪
TEMP2
IC6811 IF_ucom
⑦ ⑨
TXD_IF RXD_IF CLK_IF BUSY_IF CE_IF REQ_IF
Exhaust FAN
M31
⑩
FAN_ NG2


7
RXD_ARIA
TXD_ARIA
IC6501
MULTI_LSI
V+3_4V_ACT2
V+3_4V_D3
13
RST2
IC7002
AND-Gate
V+3_4V_D
13
RST4
IC7002
AND-Gate
V+12V
V+6_5V
V+5_1V_D
BUS
I2C
UART
3-wire serial
Status notice line

[2] SD (SHUTDOWN) DIAGNOSIS

Frequency of LED Flashing	Major Type	Detailed Type	Log Indication in Factory Mode	
			MAIN	SUB
Blue 5	Audio	Abnormality in MSP	AUDIO	MSPMAP
Blue 7	Failure in 3-wire serial communication with the main microcomputer	IF microcomputer	MA-3L	IF
		MULTI		MULTI
Blue 8	Failure in IIC communication with the main microcomputer	Tuner1	MA-IIC	FE1
		MSP/MAP		MSPMAP
		AV Switch		AV-SW
		RGB Switch		RGB-SW
		Main VDEC		VDEC
		VDEC SDRAM		SDRAM
		AD/PLL		ADC
		HDMI		HDMI
		DisplayPort Tx		DP-TX
Blue 9	Failure in communication with the main microcomputer	–	MAIN	–
Blue 10	Abnormality in FAN	FAN2	FAN	FAN2
Blue 11	High temperature of the unit	–	TEMP2	–
Blue 12	Digital Tuner	–	–	–
Blue 13	Failure in the power supply	DC-DC Converter power decrease	RST-MA	M-DCDC
		POWER SUPPLY		RELAY
Blue 15	Main EEPROM	Main EEPROM communication error	MA-EEP	–

Checkpoint	Possible Defective Part	Remarks
Power supply for MSP and MSP	IC5801, IC4604, Q4616	Check the MSP, its power and periphery parts (e.g. reset line).
Communication line between IF and MAIN	IC7003, IC6811	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF/REQ_IF)
Communication line between MULTI and MAIN	IC7003, IC6501	Check the communication lines (TXD_ARIA/RXD_ARIA)
IIC communication line between Tuner and MAIN	U5301, IC7003	Check the communication lines (SCL_TU/SDA_TU or SCL_AV/SDA_AV)
IIC communication line between MSP/MAP and MAIN	IC5801, IC7003	Check the communication lines (SCL_AV/SDA_AV)
IIC communication line between AV_SW and MAIN	IC5101, IC7003	Check the communication lines (SCL_AV5/SDA_AV5)
IIC communication line between RGB_SW and MAIN	IC5501, IC7003	Check the communication lines (SCL_AV5/SDA_AV5)
IIC communication line between M_VDEC and MAIN	IC4702, IC7003	Check the communication lines (SCL_MB/SDA_MB)
Communication line between VDEC and SDRAM	IC4701, IC4702	Check the communication lines (SDRAM), Failure in SDRAM
IIC communication line between ADC and MAIN	IC4801, IC7003	Check the communication lines (SCL_AV/SDA_AV)
IIC communication line between HDMI_RX and MAIN	IC4901, IC7003	Check the communication lines (SCL_MB/SDA_MB)
IIC communication line between DP_TX and MAIN	IC7602, IC7003	Check the communication lines (SCL_EEP/SDA_EEP)
Communication line between IF and MAIN	IC6811, IC7003	Check the communication lines (TXD_IF/RXD_IF/CLK_IF/BUSY_IF/CE_IF /REQ_IF)
Dirt attached to the fan motor		Check the fan. (SD10 does not detect it at the temperature that fans do not turn.)
Periphery of the FAN		FAN_NG
Periphery of the cable at M31		Check if cables are firmly connected.
Periphery of the fan control regulator	IC4302	Check that the voltage outputs it.
Ambient temperature		TEMP2 A shutdown occurs because of high temperature.
Temperature sensor or its periphery	TH9401	TEMP2
Periphery of the cable between M2 and K1	CN4204, CN9401	Check if cables are firmly connected.
–	–	–
RST2 V+3_4V_ACT2, V+3_4V_D3	IC7002	Check if each voltages are started.
RST4 V+12V, V+6_5V, V+5_1V_D, V+3_4V_D	IC7002	Check if each voltages are started.
V+12V, V+6_5V, V+17V	POWER SUPPLY Unit	Check if each voltages are started.
Check the cable M1	CN4203	Check if cables are firmly connected.
IIC communication line between EEPROM and MAIN	IC7004, IC7003	Check the communication lines (SCL_EEP/SDA_EEP)

3.5 NON-FAILURE INFORMATION

[1] INFORMATION ON SYMPTOMS THAT DO NOT CONSTITUTE FAILURE

Symptom	Cause, item to check, information
HDMI: Symptoms concerning the input format and settings	
The picture color for an INPUT 3 or 4 or 5 signal is not correct.	The color setting for INPUT 3 or 4 or 5 is not compatible with that of the output equipment. Check whether the color setting is YPbPr or RGB.
The video signal to INPUT 3 or 4 or 5 is not displayed, and a message is displayed.	A unsupported video signal is input.
The audio signal input to the INPUT 3 is not output. No HDMI signal is input.	The audio setting for INPUT 3 is any setting and a video signal is not input. If the audio setting is any setting to output an analog audio signal, the HDMI signal must be input. (If a DVI device is to be connected, use a DVI-HDMI conversion cable.) If the HDMI video signal is not input, the analog audio signal is not output.
No sound of signals to INPUT 3 or 4 or 5 is output.	The setting on the side of the HDMI output equipment is wrong. (Example: Dolby Digital)
The 1080p input signal is not displayed properly or at all, although the 1080i input signal is displayed properly.	Check that the connected cable supports HDMI Category 2. (As the clock frequency for the 1080p signal is triple that for the 1080i signal, signal degradation caused by a cable must not be neglected. A cable supporting HDMI Category 2 can be used for the 1080p signal. Although some conventional cables can support the 1080p signal, some others cannot.)
MONITOR video output	
The video output signal from the MONITOR output is deteriorated. Or when the video output signal from the MONITOR output is recorded, its playback picture is deteriorated.	The video signal output from the MONITOR output is Macrovision protected.
The video signal is not output when the component signal is input to INPUT 1 or 2.	The video signal is not output from the MONITOR output when the component signal is selected.
The video signal is not output when the video signal is input to INPUT 3 or 4 or 5.	The video signal is not output from the MONITOR output when the HDMI signal is selected.
MONITOR audio output	
The image displayed on the PDP is not synchronized with the sound from the MONITOR audio output.	The audio signal from the MONITOR output is synchronized with the video output signal from the MONITOR output.
Miscellaneous	
The no-signal off function is not activated.	The no-signal off and no-operation off functions are effective only if video (composite, S video, component, HDMI [excluding PC]) input or TV input is selected.
The no-operation off function is not activated.	
Power management does not function.	Power Management is effective only while an analog PC signal is being input. It is not effective with HDMI-PC signal input.
The AUTO SETUP function is not activated.	The Auto Setup function is effective only while an analog PC signal is being input. This function does not work if an analog PC signal is not input, even if the INPUT PC is selected.
The picture-quality setting (AV Selection) is not stored.	The picture-quality setting is stored for each input. As the setting is changed when another input is selected, the user may have a false idea that the setting is not stored.
The picture size changes arbitrary.	The Auto Size setting is set to ON.
The display position of the screen changes slightly while the screen is on.	The orbiter function for minimizing the effects of phosphor burn is activated. Although the setting for this function can be changed on the Home menu, retaining the factory setting is strongly recommended.
The video signal to the S video connector is not displayed.	The component video cable is connected to the same input function as for the S video (even if no signal is input to the component video connector, merely having something plugged in to the connector will result in judgement that a signal is being fed in and the component video connector takes priority). (Priority of connectors: component video > S video > composite video)
The video signal to the composite video connector is not displayed.	The S Video or component video cable is connected to the same input function as for the composite video.(Priority of connectors : component video > S video > composite video)

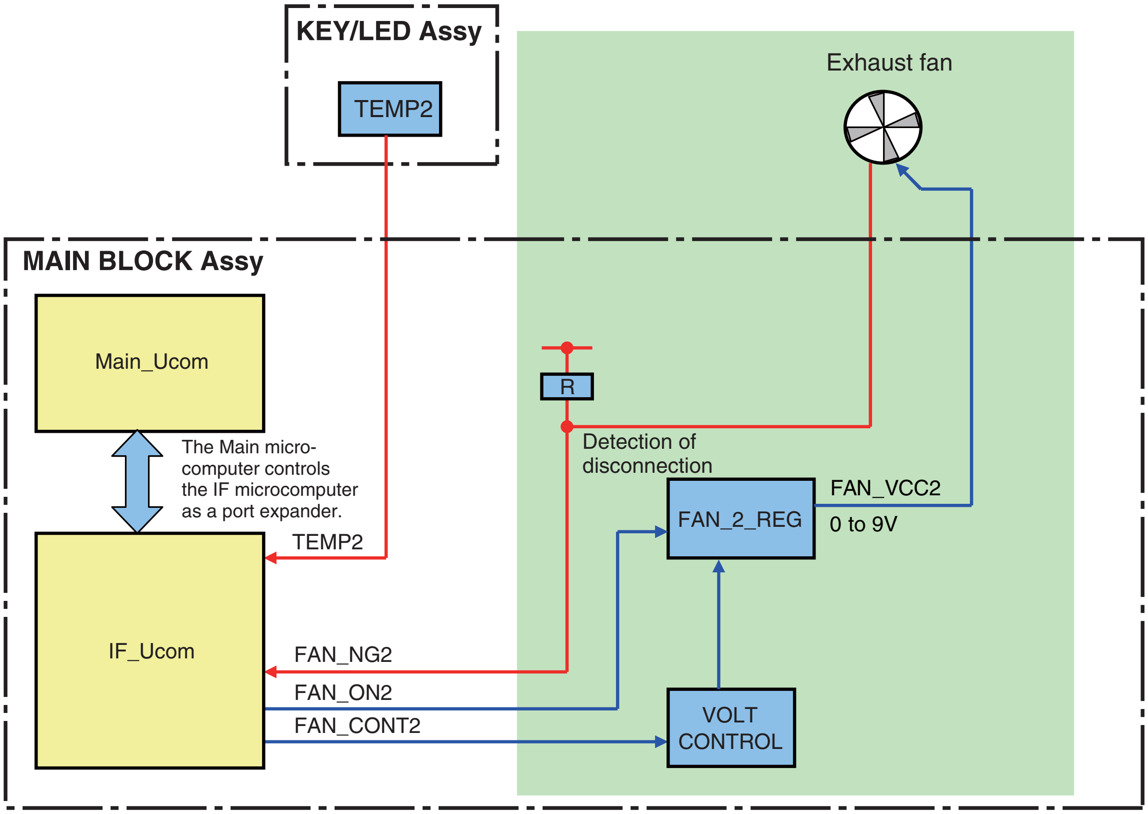
SUPPLEMENT: On the video setting for HDMI

There are three types of HDMI output formats: color difference 4:4:4, color difference 4:2:2, and RGB4:4:4.
(The proportions, such as 4:4:4 and 4:2:2, represent those of the amount of data for video signal components. For example, as for color difference 4:4:4, the proportion of the amount of data as for Y, Cb, and Cr is 4:4:4.)
It is required to make the settings of the PDP according to the settings of the output equipment. For usual operation, however, set them to AUTO. If the color is inappropriate, make the settings manually.
In the HDMI system, video signals are coded at 24 bits per pixel and transmitted as a series of 24-bit pixels. In a case of color difference 4:4:4, Y, Cb, and Cr use 8 bits each. In a case of color difference 4:2:2, Y, Cb, and Cr use 12 bits each, but Cb and Cr are transmitted at a half sampling rate of Y. This unit is capable of processing the upper 10 bits out of 12 bits of video data. Recent high-end DVD players, such as Pioneer DV-79AVi, are capable of outputting 10-bit color-difference signals. In general, it is said that picture quality for color difference 4:2:2 format is assumed to be higher, because human eyes are more sensitive to luminance than to colors. In the case of RGB4:4:4, R, G, and B use 8 bits each.

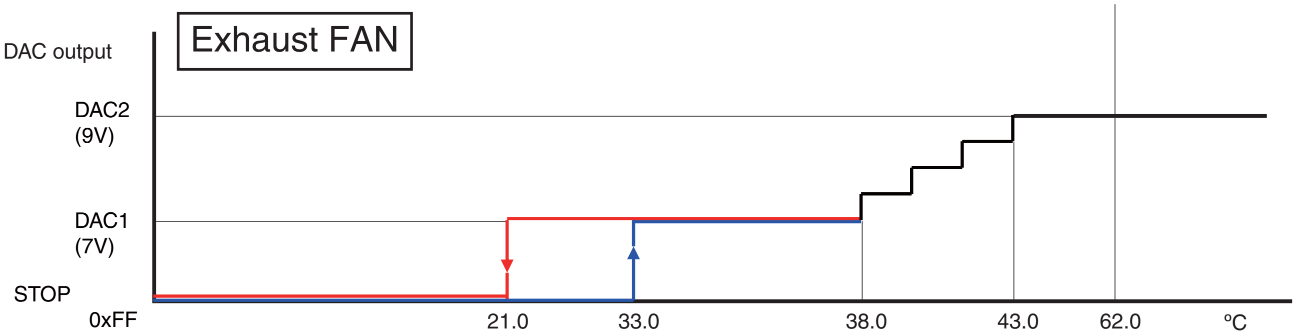
3.6 OUTLINE OF THE OPERATION

[1] SPECIFICATION OF THE FAN CONTROL

■ Block diagram


KEY/LED Assy
TEMP2
Exhaust fan
MAIN BLOCK Assy
Main_Ucom
The Main micro-computer controls the IF microcomputer as a port expander.
IF_Ucom
TEMP2
R
Detection of disconnection
FAN_2_REG
FAN_VCC2
0 to 9V
FAN_NG2
FAN_ON2
FAN_CONT2
VOLT CONTROL

■ Operation specifications



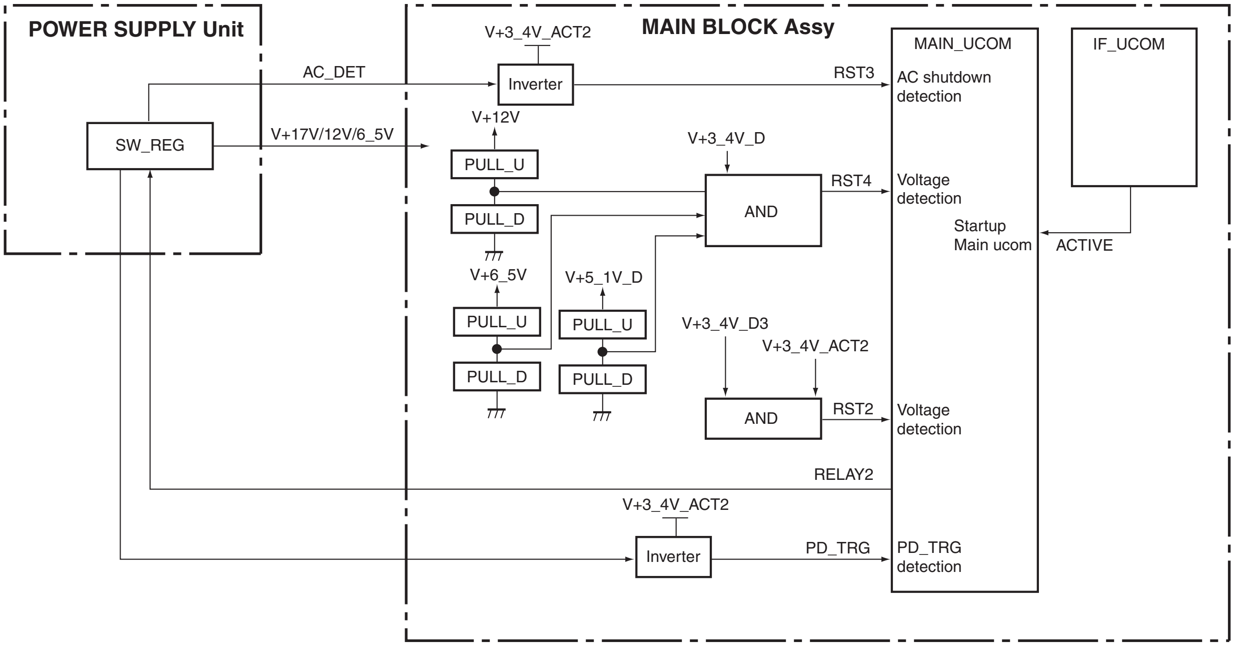
Notes:

- The operating temperature of the fan is different from the ambient temperature, because the sensor temperature is read by the microcomputer.
- The fan may not start rotating until the internal temperature of the unit reaches a certain level, such as immediately after the unit is turned on.
- When the temperature rises, the sensor voltage of TEMP2 decreases.
- When the voltage of the DAC output for exhaust FAN decreases, rotation speed of FAN rises.

[2] PROCESSING IN ABNORMALITY

Power supply and DC-DC converter

● Circuit configuration

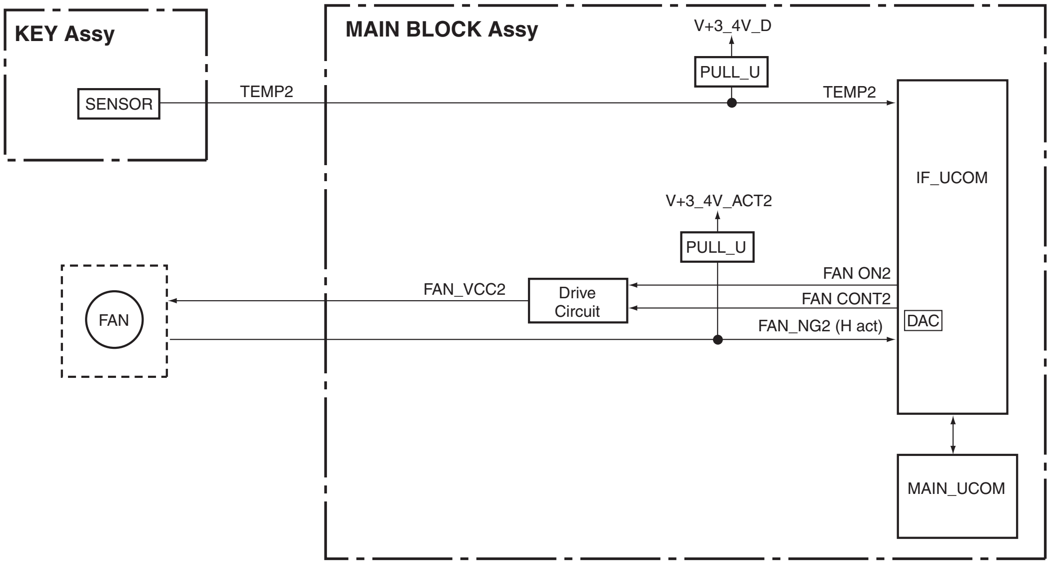

POWER SUPPLY Unit
SW_REG
AC_DET
V+17V/12V/6_5V
MAIN BLOCK Assy
V+3_4V_ACT2
Inverter
RST3
V+12V
PULL_U
PULL_D
V+3_4V_D
AND
RST4
V+6_5V
V+5_1V_D
PULL_U
PULL_D
PULL_U
PULL_D
V+3_4V_D3
V+3_4V_ACT2
AND
RST2
RELAY2
V+3_4V_ACT2
Inverter
PD_TRG
MAIN_UCOM
AC shutdown detection
Voltage detection
Startup Main ucom
Voltage detection
PD_TRG detection
IF_UCOM
ACTIVE

● Specifications for port monitoring

Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
RST2	ASIC power (M-DCDC)	Shutdown occurs when the signal is "L." for 5 sec after PSW1 is ON. or for 2 sec while the unit is ON.	• Panel screen ON (RST4 = H and PSW1 = H) • While awaiting restoration of RST2 (RST2 = L)	Shutdown occurs immediately Blue LED flashes 13 times.
RST3	—	—	Excepting passive standby	If "RST3 = H" (AC_OFF) is detected under the monitoring conditions, a power-off process starts. Monitoring of the RST3 port is continued, and monitoring of other ports is interrupted. Communication is controlled only by the IF microcomputer. The port outputs are set as specified. If the signal at the RST3 port continues to be H after 30 mS of waiting, monitoring is continued. If RST3 is L, a restoration process starts according to the latest power-on/-off status.
RST4	MAIN power (RELAY)	Shutdown occurs if the signal is "L." for 5 sec after RELAY2 is ON. or for 2 sec while the unit is ON or in Functional STB.	RELAY2 = ON (High)	Shutdown occurs immediately Blue LED flashes 13 times.
PD_TRG	VCC power (MR-PWR)	Shutdown occurs when the signal is continuously "L" for 30msec * 3 times after RELAY2 is ON.	• RELAY2 = ON • Monitor it after 3 sec.	Power-down occurs immediately Red LED flashes once.

Fan and temperature sensor

● Circuit configuration


KEY Assy
SENSOR
TEMP2
MAIN BLOCK Assy
V+3_4V_D
PULL_U
TEMP2
IF_UCOM
V+3_4V_ACT2
PULL_U
FAN ON2
FAN CONT2
FAN_NG2 (H act)
DAC
FAN_VCC2
Drive Circuit
FAN
MAIN_UCOM

● Specifications for port monitoring

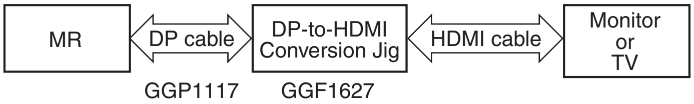
Port Name	SD/PD Indication	Determination Condition	Monitoring conditions	Operation
FAN_NG2	FAN	Shutdown occurs when the signal is "H." 1 S ∗ 3 times.	RST4 = H and FAN_ON2 = H (Monitoring starts 3 sec after the above conditions are established.)	Shutdown occurs immediately Blue LED flashes 10 times.
TEMP2	High temperature at MR	Shutdown occurs if any values equal to or greater than minimum to require a shutdown are detected. 1 S ∗ 3 times.	RST4 = H (Monitoring starts 1 sec after the above conditions are established.)	In the Panel screen ON: Shutdown occurs after the warning indication is displayed for 30 sec. In the Functional STB: Shutdown occurs immediately Blue LED flashes 11 times.

[3] HOW TO OPERATE THE MEDIA RECEIVER SEPARATELY

● Necessary items for operation

- Media Receiver
- DP-to-HDMI conversion jig: GGF1627 (with the AC adaptor)
  AC adaptor INPUT: 100 V to 240 V, 50/60 Hz, 0.3 A
  OUTPUT: DC 6 V, 1.8 A ⊖—●—⊕
- Monitor or TV (with which an image with resolution of 1920 × 1080 p, 60 Hz can be displayed, with HDMI input)
  Note: When checking with DVI monitor, setting change of this jig is required.
- DP cable (GGP1117) and HDMI cable
- G8 or G9 remote control unit (in case of controlling by remote control unit)
- PC and RS-232C straight cable (in case of controlling by PC)
- HDMI -DVI cable (in case of connecting with DVI monitor)

● Connection


MR
DP cable
DP-to-HDMI Conversion Jig
HDMI cable
Monitor or TV
GGP1117
GGF1627

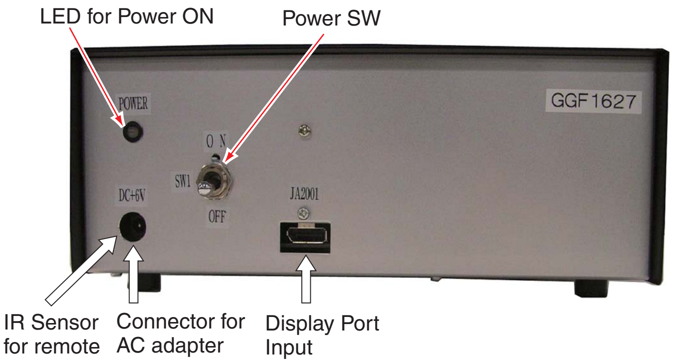

LED for Power ON
Power SW
GGF1627
POWER
ON
SW1
OFF
DC+6V
JA2001
IR Sensor for remote
Connector for AC adapter
Display Port Input

Fig.1 DP - HDMI Conversion tool (Front side)

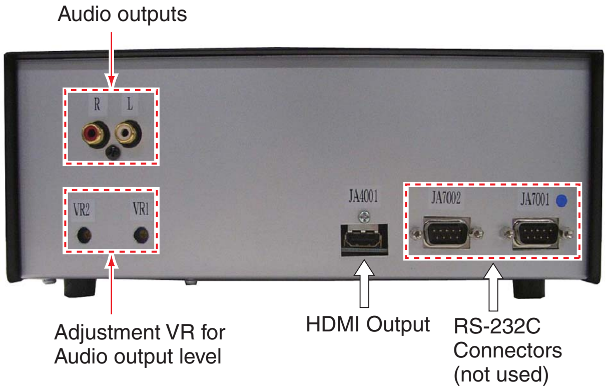
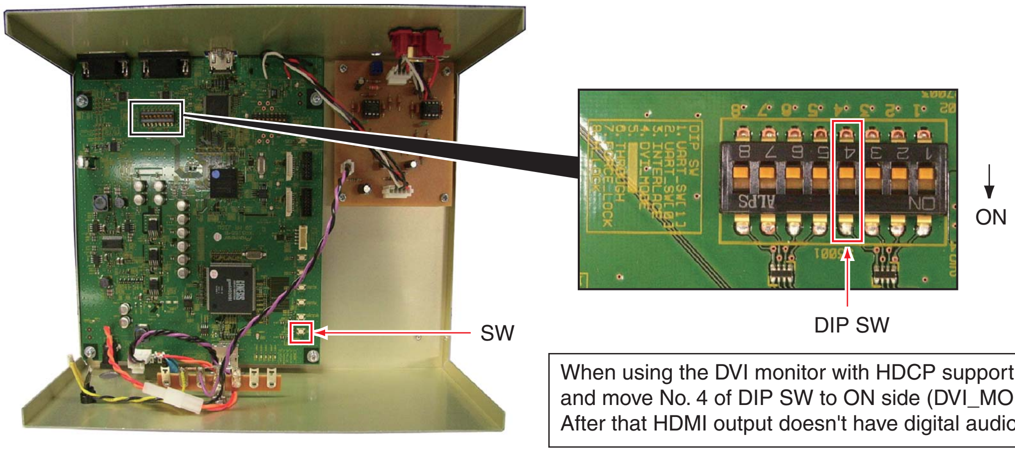

Audio outputs
R
L
VR2
VR1
JA4001
JA7002
JA7001
Adjustment VR for Audio output level
HDMI Output
RS-232C Connectors (not used)

Fig.2 DP - HDMI Conversion tool (Rear side)



When using the DVI monitor with HDCP support, remove a bonnet and move No. 4 of DIP SW to ON side (DVI_MODE).
After that HDMI output doesn't have digital audio signal.

Fig.3 DP - HDMI Conversion tool
DIP SW Setting (output mode setting for HDMI connector)

● Preparation

- Set the MR from System Operation mode to Standalone Operation mode.
  The MR is normally set to System Operation mode. If the MR is turned on in this mode, it cannot be operated properly.

To change to Standalone Operation mode, proceed as follows:

[With an RS-232C command]
1. Turn the MR on.
2. In this state, send the MRMS01 command via RS-232C ports.
3. Turn the MR off.

When the MR is turned on next time or after, it will be in Standalone Operation mode.

[With the keys on the MR]
1. Set the MR to Standby mode.
2. Press and hold the INPUT key of the MR pressed for at least 5 seconds.
   (This step is for giving a startup trigger in a case where the MR was in Passive Standby mode.)
3. Within 5 seconds after the INPUT key is released, press and hold the CHANNEL - key of the MR for at least 10 seconds.
4. After the modes are changed, the red LED flashes twice then is lit (the unit enters Normal Standby mode).
5. Turn the unit off.

When the MR is turned on next time or after, it will be in Standalone Operation mode.

● Operation

After the setting in Preparation is completed, turn the units on in the following order then perform analysis:
1. Turn the monitor or TV on. (Set the input mode to HDMI.)
2. Turn the DP-to-HDMI conversion jig on.
3. Turn the MR on.
   If no image is displayed on the monitor or TV after the MR is turned on, press and hold the switch on the DP-to-HDMI conversion jig for about 1 sec.

● How to control the MR

- With the remote control unit:
  The infrared receiver (IR) sensor for remote control unit is placed inside of the jig. Please point the remote towards the AC adaptor connector on the jig.
  Unlike normal products, sensor reception of this tool is not so sensitive due to reduce interference with another Pioneer Plasma TV.
  Please keep the distance between the remote control unit and the sensor less than 15cm.

- With RS-232C commands:
  Connect a PC to the MR via their RS-232C ports and send RS-232C commands from the PC. (Baud rate: 9600 bps)

After analysis is finished

After analysis in Standalone Operation mode is finished, before returning the MR to the customer, be sure to return the unit to System Operation mode, as shown in the procedures below.
If it remains in Standalone Operation mode, when it is connected with the customer's monitor, the monitor will detect a connection error and not operate properly, and no image will be displayed.

To set the MR to System Operation mode, proceed as follows:

[With an RS-232C command]

1. Turn the MR on.
2. Send the MRMS00 command via RS-232C ports.
3. Turn the MR off.
   When the MR is turned on next time or after, it will be in System Operation mode.
4. Connect the MR directly with the monitor and check that they operate properly.

[With the keys on the MR]

1. Set the MR to Standby mode.
2. Press and hold the INPUT key of the MR pressed for at least 5 seconds.
   (This step is for giving a startup trigger in a case where the MR was in Passive Standby mode.)
3. Within 5 seconds after the INPUT key is released, press and hold the CHANNEL + key of the MR for at least 10 seconds.
4. After the modes are changed, the red LED flashes twice then is lit (the unit enters Normal Standby mode).
5. Turn the unit off.
   When the MR is turned on next time or after, it will be in Standalone Operation mode.

Products whose proper operation has been proved when HDMI connection is performed with this MR

Model Number	Manufacturer	Built-in Audio AMP
PDP-5000EX	Pioneer	○ (SP is required)
G8	Pioneer	○ (SP is required except 42 inch)
FP241WJ	BenQ	× (External audio amp and SP is required)
3008WFP	DELL	× (External audio amp and SP is required)
HD2441W	EIZO NANAO	× (External audio amp and SP is required)

Attention point for audio volume

Audio output level is connected with MR volume level. If VR level of a MR is normal (around 10 - 15) and displayed HDMI TV or audio AMP is not so high level, sound level is very low. Please turn up the volume to appropriate level either or both units.
In case of turning up volume of MR to very high level during testing, turn down it to normal level and then turn off the unit. Otherwise when connecting the MR with panel, very loud sound is output from speakers and it might be a danger.

Attention point when using another Pioneer Plasma TV

Please pay attention to interference of IR signal when using Pioneer plasma TV as HDMI monitor.
If remote signal is also received to Pioneer plasma TV when operating MR with this tool and remote, you might confuse of which unit is controlled by the remote.
The following methods are some of suggestions to control only MR with the conversion tool.
Using the remote control unit and the conversion tool (AC adaptor connector) as nearly as possible hiding remote sensor of the plasma TV temporally.

Setting Method to connect with DVI monitor with HDCP support (DVI mode)

1. Open bonnet with power off condition.
2. Refer to Fig. 3, move the DIP SW No. [4] to ON side.

After this setting, DVI mode signal is output from HDMI output connector of HDMI.

Note: 1. Some of DVI monitors might not display output signal from this conversion tool.
2. Output signal does not contain digital audio signal.

3.7 LIST OF RS-232C COMMANDS

■ RS-232C command list

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
A					
AMT	S00	Audio mute OFF			
	S01	Audio mute ON			
C					
CHN	FWD	Changing tuner preset channel (1 step forward)			
	REV	Changing tuner preset channel (1 step reverse)			
CHM		Clearing data of the hour meter		●	Last memory is performed to the panel side.
CHR		Clearing data of the hour meter of MTB/MR side			Clear the hour meter of screen display of MAIN NG.
CNG		Clearing data of the SD history of MTB/MR side			
D					
DPT		Rewriting the Display Port Tx			
DW∗		To subtract ∗ to the adjustment value (∗ = 0 to 9, subtract 10 with DW0 and set to minimum value with DWF)			
F					
FAN		Factory mode: OFF		●	
FAY		Factory mode: ON			
FST	S41	Set each memory setting of MR side to the General model.		●	
	S42	Set each memory setting of MR side to the China model.		●	
I					
INA	∗∗∗	Switching the terrestrial analog signal, direct tuning (∗∗∗: channel number)	MAIN		
		Switching the terrestrial analog signal (Channnel is in the last.)	MAIN		
INH		Switching the Home Media Gallery / Home Gallery			
INP	S01	Input: INPUT1	MAIN		
	S02	Input: INPUT2	MAIN		
	S03	Input: INPUT3	MAIN		
	S04	Input: INPUT4	MAIN		
	S05	Input: INPUT5	MAIN		
	S06	Input: INPUT6	MAIN		
	S07	Input: INPUT7 (PC)	MAIN		
M					
MRM	S00	Setting the mode to normal operation	MAIN	●	
	S01	Setting the mode to standalone operation	MAIN	●	
MST	S00	Display one screen			
	S01	PsideP (Main size: normal)			
	S02	PinP (Right down)			
	S03	PinP (Right up)			
	S04	PinP (Left down)			
	S05	PinP (Left up)			
	S08	SWAP (Exchanging sub-screen)			
O					
OSD	S00	OSD setting: OFF	MAIN		
	S01	OSD setting: ON	MAIN		
P					
POF		Power: OFF	MAIN		
PON		Power: ON	MAIN		
PUC	S00	PURE CINEMA: OFF	MAIN	●	
	S01	PURE CINEMA: Standard	MAIN	●	
	S02	PURE CINEMA: Advance	MAIN	●	
	S03	PURE CINEMA: Smooth	MAIN	●	
Q					
QMT		Acquiring temperature of MTB/MR side and Fan speed			
QNG		Acquiring shutdown information of MTB/MR side			
QS1		Acquiring unit data, such as the software version			
QSE		Acquiring unit data, such as the software version of MTB/MR side (specific destination)			

Command Name		Function	Last Memory	Effective only in Factory mode	Remarks
S					
SDF	S00	SRS DEFINITION: OFF			
	S01	SRS DEFINITION: DEFINITION1			
	S02	SRS DEFINITION: DEFINITION2			
	S03	SRS DEFINITION: DEFINITION3			
SML	∗∗∗	Adjustment of the side mask level	MAIN	●	
SRS	S00	SRS: OFF			
	S01	SRS: SRS1			
	S02	SRS: SRS2			
	S03	SRS: SRS3			
SZM	S00	Setting the screen size to Dot by Dot	MAIN		
	S01	Setting the screen size to 4 :3	MAIN		
	S02	Setting the screen size to FULL or FULL 1080i	MAIN		
	S03	Setting the screen size to ZOOM	MAIN		
	S04	Setting the screen size to CINEMA	MAIN		
	S05	Setting the screen size to WIDE or WIDE1	MAIN		
	S06	Setting the screen size to FULL 14:9	MAIN		
	S07	Setting the screen size to CINEMA 14:9	MAIN		
	S11	Setting the screen size to AUTO	MAIN		
	S12	Setting the screen size to WIDE2	MAIN		
T					
TBS	S00	TRUBASS: OFF			
	S01	TRUBASS: TRUBASS1			
	S02	TRUBASS: TRUBASS2			
	S03	TRUBASS: TRUBASS3			
U					
UP∗		To add ∗ to the adjustment value (∗ = 0 to 9, add 10 with UP0 and set to maximum value with UPF)			
V					
VOL	UP∗, DW∗, ∗∗∗	To adjust the volume			Use this command by designating the adjustment value ∗∗∗ (=000 to 060).
Z					
ZME	∗∗∗	Initializing the video EEPROM data of the MTB/MR side		●	

3.8 DETAILS OF RS-232C COMMANDS

Following items are same as the KRP-M01/WYSIXK5.

[1] QS1 (Software Version Information of the Microcomputer)
[3] QMT (STATUS INFORMATION OF MTB/MR SECTION
[4] QNG (SHUTDOWN INFORMATION OF MTB SECTION)
[5] FAY/FAN (ADJUSTMENT COMMANDS PERMISSION/PROHIBITION)

[2] QSE (DESTINATION PECULIAR INFORMATION)

Induce it peculiar, individual information is acquired.

Command Format	Effective Operation Modes	Function	Remarks
[QSE]	Every time	Output of status	Return data: 3 (ECO) + 32 (DATA) + 2 (CS) = 37 Byte

Data Arrangement		Data Length	Output Example
ECO		3 byte	QSE
1	Reserved	8 byte	********
2	User setting password	4 byte	1234
3	DP Tx firmware version	16 byte	123456789ABCDEFG
4	DP Tx hardware version	4 byte	ABCD
CS	Check Sum	2 byte	13

4. SERVICE FACTORY MODE

The following items in the service manual of KRP-M01/WYSIXK5 are not applicable to this model.

DETAILS OF THE FACTORY MENU
- **[5] INITIALIZE**
  - **[5-3] DTB SERVICE MENU (+)**

DIGITAL TUNER SERVICE MENU
- **[1] REMOTE CONTROL CODE IN DIGITAL TUNER SERVICE MENU**
- **[2] HIERARCHICAL TABLE OF DIGITAL TUNER SERVICE MENU**
- **[3] DIGITAL TUNER SERVICE MENU SCREEN**
- **[4] HOME MEDIA GALLERY SCREEN**
- **[5] DIGITAL SCREEN**
- **[6] SATELLITE SCREEN**
- **[7] SOFTWARE VERSION SCREEN**

4.1 OUTLINE OF THE SERVICE FACTORY MODE

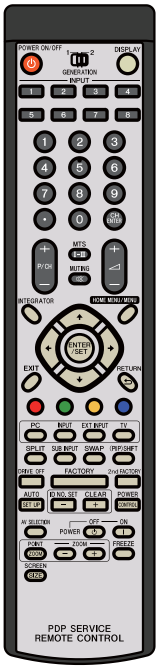
Following items are same as the KRP-M01/WYSIXK5.

[1] SERVICE FACTORY MODE TRANSITION CHART
[2] HOW TO ENTER/EXIT SERVICE FACTORY MODE
[3] FUNCTIONS WHEN ENTERING THE SERVICE FACTORY MODE
[5] PDP SERVICE REMOTE CONTROL

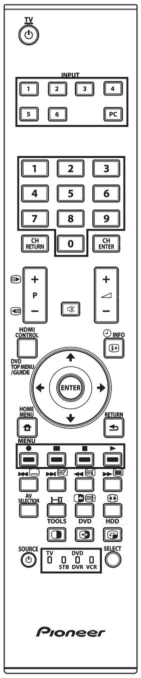
[4] REMOTE CONTROL CODE IN SERVICE FACTORY MODE

Remote Control Keys	Basic Functions	Remarks
MUTING	Switching the main items.	Shifting to the next main item (top).
⬇ (DOWN)	Switching the subtitled items.	Shifting downward to the next subtitiled item.
⬆ (UP)	Switching the subtitled items.	Shifting upward to the next upper layer.
⬅ (LEFT)	Decreasing the adjustment value.	Decreasing the adjustment value.
➡ (RIGHT)	Increasing the adjustment value.	Increasing the adjustment value.
ENTER/SET	Switching the layers.	Shifting downward or upward to the next lower or upper layer.
INPUT	Selecting INPUT.	Shifting the INPUT to the next function.
INPUTxx	Selecting INPUT.	Switching the INPUT to xx. (xx=1 to 6)
CH+/P+	Increasing the channel number.	
CH-/P-	Decreasing the channel number.	
Numeric Keys	Function: TV	Function: TV (previously selected channel number is selected)
POWER	Power OFF.	Turning the power off.
FACTORY	Factory OFF (Factory mode)	In Factory mode, turning Factory mode off.
	Factory ON (Non-Factory mode).	In Non-Factory mode, turn Fuctory mode on.
HOME MENU	Menu ON.	In Factory mode, turn Factory mode off.
VOLUME+	Volume UP.	Increasing 10 the adjustment value. (PANEL FACTORY)
VOLUME-	Volume DOWN.	Decreasing 10 the adjustment value. (PANEL FACTORY)
DRIVE OFF (Note1)	Drive Mode OFF.	Turning Drive mode off.
INTEGRATOR	INTEGRATOR MENU ON.	Enter INTEGRATOR MODE.

(Note 1) When ten seconds have passed since the [DRIVE OFF] key was pressed at the standby, it becomes invalid.
Please press [POWER] key from the [DRIVE OFF] key pressing within ten seconds when you do power supply ON while driven OFF.


POWER ON/OFF
DISPLAY
GENERATION
INPUT
INTEGRATOR
HOME MENU/MENU
ENTER/SET
EXIT
RETURN
DRIVE OFF
FACTORY
2nd FACTORY
PDP SERVICE REMOTE CONTROL

PDP service
remote control


TV
INPUT
HOME MENU
RETURN
ENTER
TOOLS
DVD
HDD
SOURCE
SELECT
Pioneer

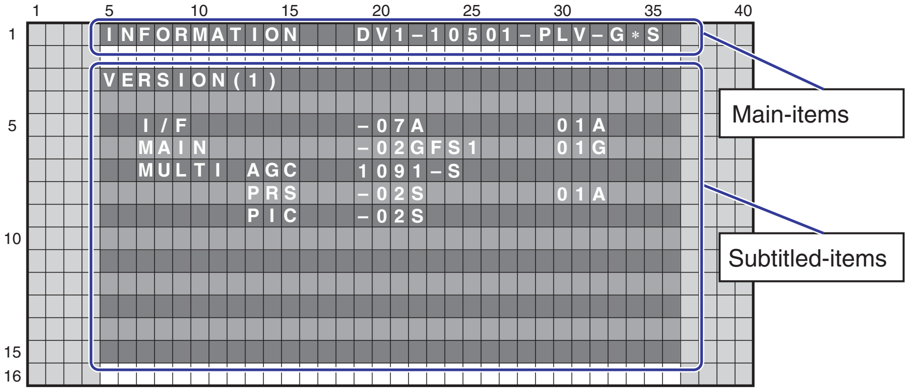
Supplied
remote control

[6] FACTORY HIERARCHICAL TABLE

Large Item	Middle Item	Small Item	Variable / Adjustment Range	Remarks
4.2 [1] INFORMATION				
	[1-1] VERSION (1)			
	[1-2] VERSION (2)			
	[1-3] VERSION (3)			
	[1-4] MAIN NG	CLEAR <=>	NO <=> YES	
	[1-5] TEMPERATURE			
	[1-6] HOUR METER	CLEAR <=>	NO <=> YES	
	[1-7] HDMI SIGNAL INFO 1			
	[1-8] HDMI SIGNAL INFO 2			
	[1-9] VDEC SIGNAL INFO 1			
	[1-10] VDEC SIGNAL INFO 2			
4.2 [2] PANEL FACTORY (+) (*1)				
	[2-1] PANEL INFORMATION			
	[2-2] PANEL WORKS			
	[2-3] POWER DOWN			
	[2-4] SHUT DOWN			
	[2-5] PANEL-1 ADJ (+)			
	[2-6] PANEL-2 ADJ (+)			
	[2-7] PANEL FUNCTION (+)			
	[2-8] ETC (+)			
	[2-9] RASTER MASK SETUP (+)			
	[2-10] PATTERN MASK SETUP (+)			
	[2-11] COMBI MASK SETUP (+)			
4.2 [3] PANEL MAIN FACTORY (+) (*1)				
	[3-1] PM NG INFO			
	[3-2] PM STATE INFO			
	[3-3] DP_RX INFO			
	[3-4] PM_SETUP (+)			
4.2 [4] OPTION				
	[4-1] CH PRESET <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[4-2] AFT <=>		DISABLE <=> ENABLE	Exclusively used for production line
	[4-3] SYNC DET (+)			for the technical analysis
	[4-4] CTI (+)			for the technical analysis
4.2 [5] INITIALIZE				
	[5-1] SIDE MASK LEVEL (+)	SIDE MASK LEVEL <=>		
	[5-2] FINAL SETUP	DATA RESET <=>	NO <=> GENERAL <=> CHINA	
	[5-3] Wide XGA AUTO <=>		DISABLE <=> ENABLE	for the technical analysis
	[5-4] AUTO ADJUST. <=>	AUTO ADJUST. <=>	NO <=> YES	

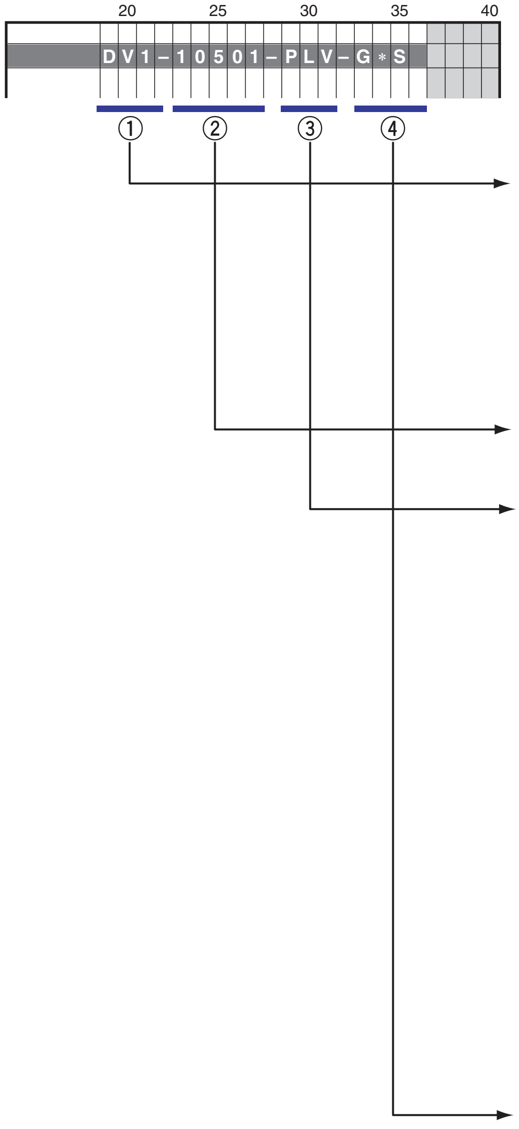
(*1): For details on the setting items, refer to the Service manual of the PLASMA DISPLAY (KRP-600P, KRP-500P).

[7] INDICATIONS IN SERVICE FACTORY MODE


1
5
10
15
20
25
30
35
40
1
5
10
15
16
Main-items
Subtitled-items

```
INFORMATION     DV1–10501–PLV–G∗S

VERSION(1)

  I/F                –07A      01A
  MAIN               –02GFS1   01G
  MULTI  AGC         1091–S
         PRS         –02S      01A
         PIC         –02S
```

Main-item indications


20
25
30
35
40
D V 1 – 1 0 5 0 1 – P L V – G ∗ S
①
②
③
④

① Input function

Input Functions	OSD
DV 1 to 6	DV 1 to 6
Terrestrial Wave (Analog)	AIR
Cable (Digital)	CBD
Home Gallery	HG
PC	PC

② SIG mode and Screen size

Note: See SIG-Mode Tables. (See next page.)

③ Color system and Signal type

Color System and Signal Type	OSD	
	At Composite Input	At S-connector Input
NTSC	NTV	NTS
PAL	PLV	PLS
PAL M	PMV	PMS
PAL N	PNV	PNS
PAL 60	P6V	P6S
SECAM	SCV	SCS
4.43 NTSC	4NV	4NS
BLACK/WHITE	BWV	BWS
Y/CB/CR	CBR	
Y/PB/PR	PBR	
RGB	RGB	
Digital Video signal	DIG	

④ Option (Destination, Panel Generation, etc.)

Options	OSD
KRP-500P/LFTXJ	G∗S
KRP-500P/WAXJ5	G∗S
KRP-600P/WAXJ5	

② SIG Mode and Screen size (by User is displayed)

1st and 2nd characters : Resolution of the input signal
3rd and 4th characters : Refresh rate of the input signal
5th character : Selection of the screen size

■ Input signal mode table for video signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
10	50	SDTV*625i	50.000	15.750
	60	SDTV*525i	60.000	15.750
20	50	SDTV*625p	50.000	31.500
	60	SDTV*525p	60.000	31.500
30	50	HDTV*1125i	50.000	33.750
	60	HDTV*1125i	60.000	33.750
40	50	HDTV*750p	50.000	45.000
	60	HDTV*750p	60.000	45.000
50	24	HDTV*1125p	24.000	27.000
	50	HDTV*1125p	50.000	56.250
	60	HDTV*1125p	60.000	67.500

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Input signal mode table for PC signals (resolutions and V frequencies)

1st to 4th Character		Signal Type	Fv (Hz)	Fh (kHz)
C1	70	720 x 400	70.087	31.469
C2	60	640 x 480	59.940	31.469
C4	60	800 x 600	60.317	37.879
C6	60	1280 x 720	60.000	44.800
C7	60	1024 x 768	60.004	48.363
C9	60	1360 x 768	60.015	47.712
D6	60	1280 x 1024	60.000	64.000

Fv: Vertical Frequency, Fh: Horizontal Frequency

■ Current selection of the screen size

5th Character	GUI Notation	VIDEO	PC	Remarks
0	DOT BY DOT	●	–	
1	4:3	●	●	
2	FULL	●	●	
3	ZOOM	●	–	
4	CINEMA	●	–	
5	WIDE	●	–	
6	FULL 14:9	●	–	
7	CINEMA 14:9	●	–	
9	WIDE1	●	–	
A	WIDE2	●	–	

●: supported, –: unsupported

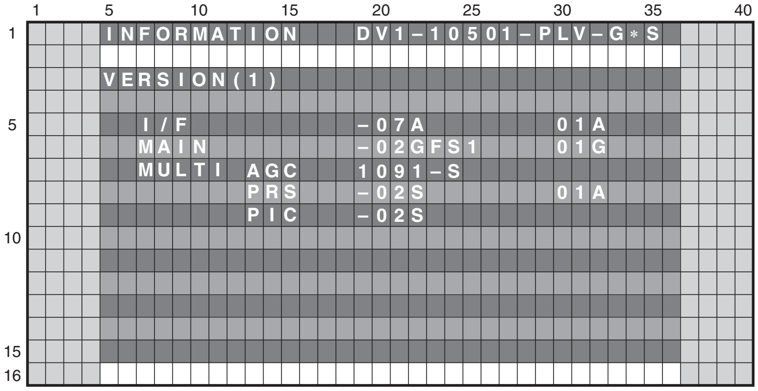
4.2 DETAILS OF THE FACTORY MENU

[1] INFORMATION

■ Operation items

No.	Function	Content	RS-232C Command
[1-1]	VERSION (1)	The Flash memory versions for each device are displayed.	QS1
[1-2]	VERSION (2)	The Flash memory versions for each device are displayed.	QSE
[1-3]	VERSION (3)	The Flash memory versions for each device are displayed.	QSB
[1-4]	MAIN NG	The Shutdown NG information and Event Times in the MTB section are displayed.	QNG
[1-5]	TEMPERATURE	The present temperature and the FAN rotating status are displayed.	–
[1-6]	HOUR METER	The accumulation power ON count of the panel is displayed.	–
[1-7]	HDMI SIGNAL INFO 1	The status registers of HDMI receiver are displayed with hexadecimal.	–
[1-8]	HDMI SIGNAL INFO 2		
[1-9]	VDEC SIGNAL INFO 1	Display the signal information input to VDEC.	–
[1-10]	VDEC SIGNAL INFO 2		

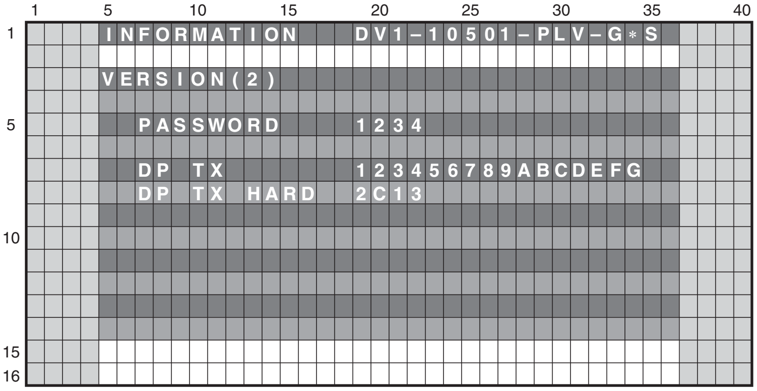
[1-1] VERSION (1)



```
INFORMATION   DV1-10501-PLV-G*S

VERSION(1)

  I/F             -07A        01A
  MAIN            -02GFS1     01G
  MULTI AGC       1091-S
        PRS       -02S        01A
        PIC       -02S
```

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
I/F	I/F microcomputer	-07A	01A
MAIN	Main microcomputer	-02GFS1	01G
MULTI AGC	AGC data of Multi processor	1091-S	
MULTI PRS	Program of Multi processor	-02S	01A
MULTI PIC	Picture quality data of Multi processor	-02S	

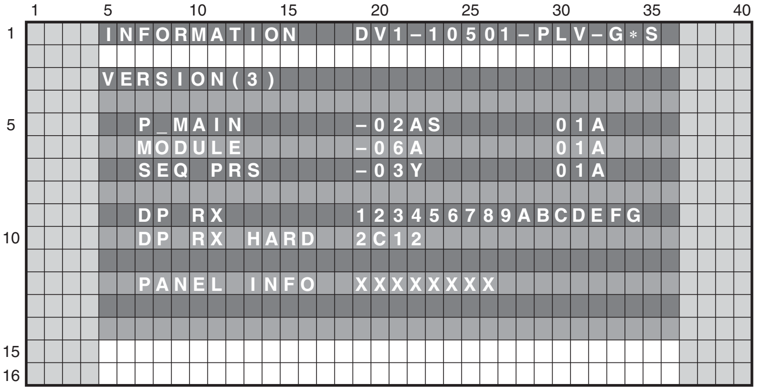
[1-2] VERSION (2)



```
INFORMATION    DV1-10501-PLV-G*S

VERSION(2)

  PASSWORD     1234

  DP TX        123456789ABCDEFG
  DP TX HARD   2C13
```

Display Item	Meaning	Display Example
PASSWORD	User setting password	1234
DP TX	DP TX Firmware Version	123456789ABCDEFG
DP TX HARD	DP TX Hardware Version	2C13

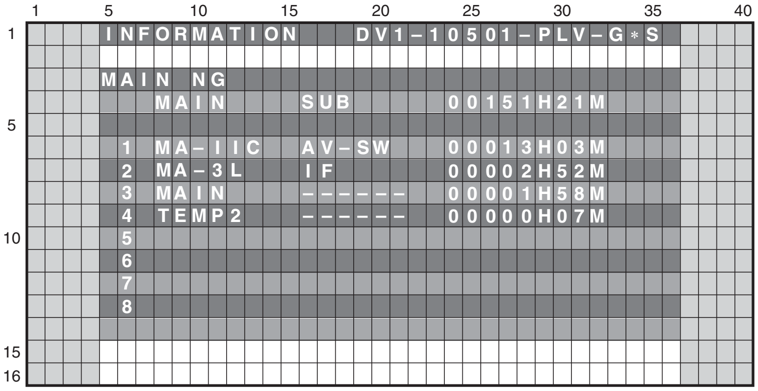
[1-3] VERSION (3)



```
INFORMATION    DV1-10501-PLV-G*S

VERSION(3)

  P_MAIN       -02AS      01A
  MODULE       -06A       01A
  SEQ PRS      -03Y       01A

  DP RX        123456789ABCDEFG
  DP RX HARD   2C12

  PANEL INFO   XXXXXXXX
```

Display Item	Meaning	Display Example (Program)	Display Example (Boot)
P_MAIN	Panel Main microcomputer	-02AS	01A
MODULE	Module microcomputer	-06A	01A
SEQ PRS	Program of the sequence processor	-03Y	01A
Display Item	**Meaning**	**Display Example**	
DP RX	DP RX Firmware Version	123456789ABCDEFG	
DP RX HARD	DP RX Hardware Version	2C12	
Display Item	**Meaning**		
PANEL INFO	It displays the generation of the panel, inchage and the type of the panel. For details on display values and settings, see "10: Panel Information" in "5.9 [1] QS1 (Software Version Information of the Microcomputer)" on the Service Manual of KRP-M01/WYSIXK5.		

[1-4] MAIN NG



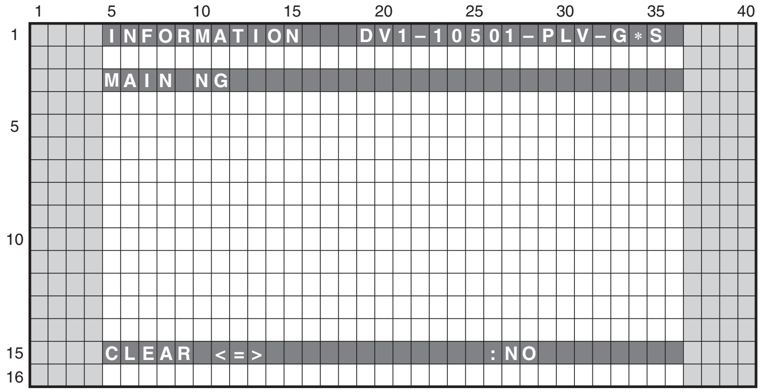
```
INFORMATION    DV1-10501-PLV-G*S

MAIN  NG
   MAIN        SUB         00151H21M

  1 MA-IIC     AV-SW       00013H03M
  2 MA-3L      IF          00002H52M
  3 MAIN       ------      00001H58M
  4 TEMP2      ------      00000H07M
  5
  6
  7
  8
```

Shutdown NG information

Error Display: MAIN	Error Display: SUB	Cause of Shutdown
MR-PWR	----	Abnormality in VCC power
AUDIO	MSPMAP	Abnormality in MSP
MA-3L		3-wire Serial Communication error of Main microcomputer.
	IF	Communication error of IF microcomputer
	MULTI	Main communication error of Multi Processor
MA-IIC		IIC Communication error of Main microcomputer
	FE1	Tuner 1
	MSPMAP	MSP/MAP
	AV-SW	AV Switch
	RGB-SW	RGB Switch
	VDEC	Main VDEC
	SDRAM	VDEC - SDRAM
	ADC	AD/PLL
	HDMI	HDMI
	DP-TX	DisplayPort Tx
MAIN	----	Communication error of Main microcomputer
FAN		FAN abnormal
	FAN1	FAN1 abnormal stop
	FAN2	FAN2 abnormal stop
TEMP2	----	Abnormality high temperature
RST-MA		Abnormality in MTB power
	M-DCDC	Abnormality in ASIC power (DC-DC)
	RELAY	Power decrease of RELAY power

• Clear the MAIN NG history

To shift to the MAIN NG history clear screen, while the MAIN NG screen is displayed, press the ENTER/SET key.



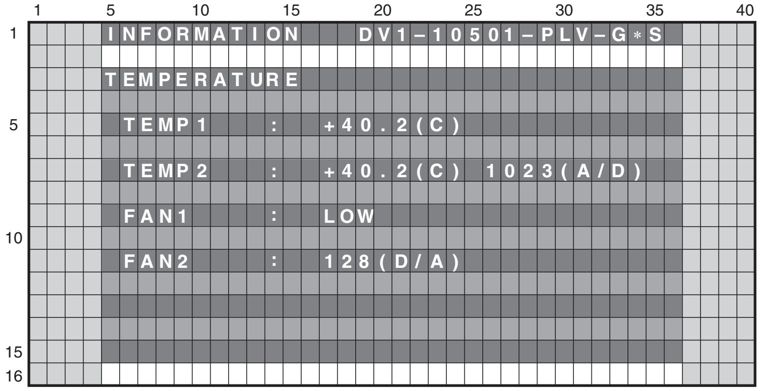
```
INFORMATION    DV1-10501-PLV-G*S

MAIN NG

CLEAR <=>            :NO
```

Operation:

- Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the NG log data that are managed in MTB then return the screen to the next higher layer.

[1-5] TEMPERATURE

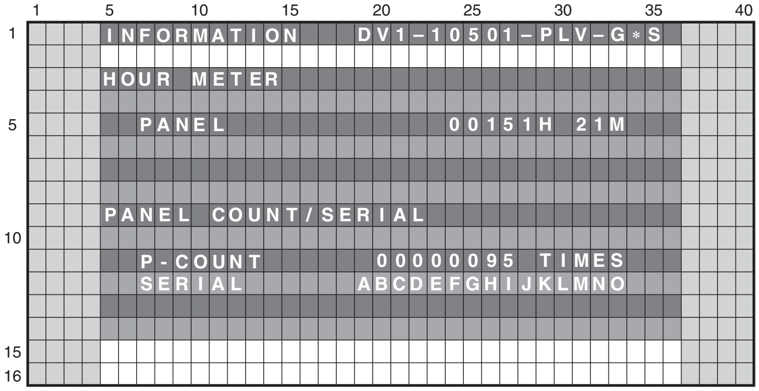
A present temperature and the FAN rotation are displayed.
If either [⬅] key or [➡] key is pressed, the display data is refreshed.



```
    INFORMATION   DV1-10501-PLV-G*S

    TEMPERATURE

     TEMP1   :  +40.2(C)

     TEMP2   :  +40.2(C) 1023(A/D)

     FAN1    :  LOW

     FAN2    :  128(D/A)
```

Display Item	Meaning
TEMP1	The temperature of the sensor on the panel side is displayed by the Centigrade (C).
TEMP2	The temperature conversion display is done with 10 bit the A/D input value of IF microcomputer. It is displayed by both the Centigrade (C) and 8 bit A/D value. Note: When temperature (C) of the sensor becomes more than a specified temperature, the shutdown start of processing.
FAN1	Although STOP, LOW, or HIGH may be displayed, they are meaningless. Ignore those displays.
FAN2	The value of the rotation state of FAN is displayed. During a rotation of FAN, 8bit D/A value output from IF microcomputer is displayed. It is displayed with OFF during a stop.

[1-6] HOUR METER

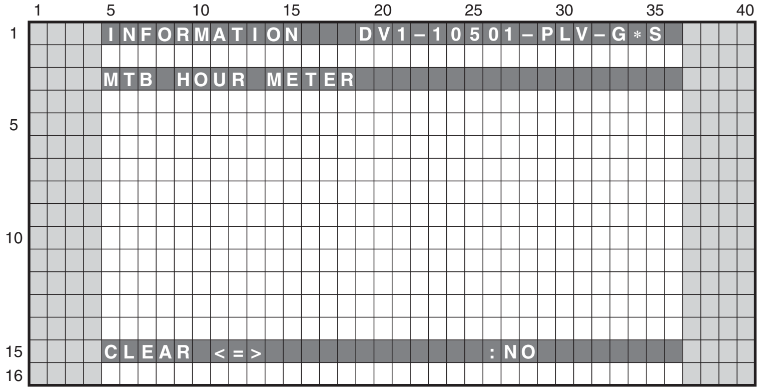


```
INFORMATION    DV1-10501-PLV-G*S

HOUR METER

  PANEL              00151H 21M


PANEL COUNT/SERIAL

  P-COUNT        00000095 TIMES
  SERIAL         ABCDEFGHIJKLMNO
```

Display Item	Meaning	Display Example
PANEL	HOUR METER of the panel	00151H 21M
P-COUNT	Accumulation power ON count of the panel	00000095 TIMES
SERIAL	Serial number of the Display (panel)	ABCDEFGHIJKLMNO

• MTB HOUR METER

In HOUR METER screen on Factory Menu, press the [ENTER/SET] key, and then it moves to the screen to clear MTB HOUR METER. (MTB HOUR METER is cleared only.)

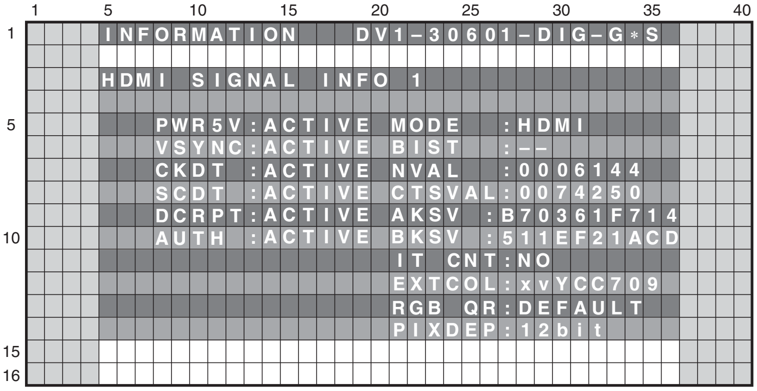


```
INFORMATION    DV1-10501-PLV-G*S

MTB HOUR METER












CLEAR <=>           :NO
```

Operation:

- Even if [⬅] key or [➡] key is pressed, {CLEAR <=> :YES} ⇔ {CLEAR <=> :NO} is repeated.
- Selecting <NO> then pressing the ENTER/SET key will return the screen to the next higher layer, without doing anything.
- Selecting <YES> then holding the ENTER/SET key pressed for 5 seconds will clear the HOUR METER (HOUR METER while the MAIN NG screen is displaed) data that are managed in MR then return the screen to the next higher layer.

[1-7] HDMI SIGNAL INFO 1

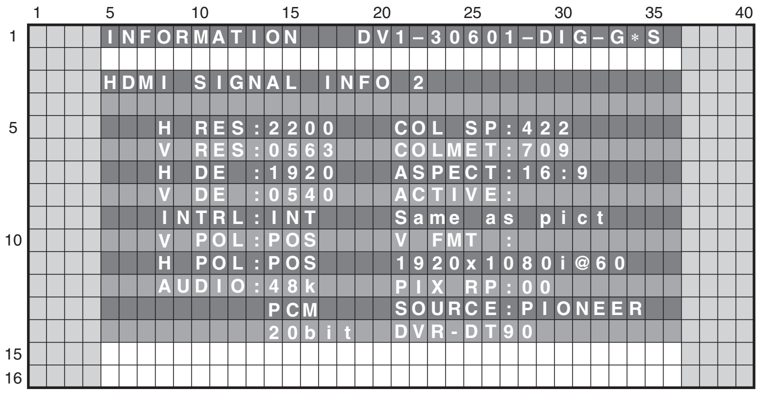


```
INFORMATION  DV1-30601-DIG-G*S

HDMI SIGNAL INFO 1

   PWR5V:ACTIVE MODE  :HDMI
   VSYNC:ACTIVE BIST  :--
   CKDT :ACTIVE NVAL  :0006144
   SCDT :ACTIVE CTSVAL:0074250
   DCRPT:ACTIVE AKSV :B70361F714
   AUTH :ACTIVE BKSV :511EF21ACD
                IT CNT:NO
                EXTCOL:xvYCC709
                RGB QR:DEFAULT
                PIXDEP:12bit
```

Displays the input signal information of HDMI terminal

Display Item	Meaning
PWR5V	+5 V power detection (18 pin of HDMI terminal)
VSYNC	VSYNC detection
CKDT	Clock detection
SCDT	SYNC detection
DCRPT	HDCP decryption status
AUTH	HDCP authentication status
MODE	HDMI mode status
BIST	HDCP Key status (Always display it with "--".)
NVAL	N value
CTSVAL	CTS value
AKSV	Shadow AKSV value
BKSV	Shadow BKSV value
IT CNT	IT content (AVI info)
EXTCOL	Extension colorimetry (AVI info)
RGB QR	RGB range (AVI info)
PIXDEP	Number of pixel/bit

[1-8] HDMI SIGNAL INFO 2



```
INFORMATION   DV1–30601–DIG–G*S

HDMI SIGNAL INFO 2

   H RES:2200   COL SP:422
   V RES:0563   COLMET:709
   H DE  :1920   ASPECT:16:9
   V DE  :0540   ACTIVE:
   INTRL:INT     Same as pict
   V POL:POS     V FMT  :
   H POL:POS     1920x1080i@60
   AUDIO:48k     PIX RP:00
         PCM     SOURCE:PIONEER
         20bit   DVR-DT90
```

Displays input signal status of HDMI terminal

Display Item	Meaning
H RES	Number of horizontal pixels
V RES	Number of vertical lines
H DE	Number of effectively horizontal pixels
V DE	Number of effectively vertical lines
INTRL	Interlace (=INT) or progressive (=PRG)
V POL	VSYNC polarity
H POL	HSYNC polarity
AUDIO (first line)	Sampling frequency. (ex. DVD: 48kHz, CD: 44.1kHz) *1
AUDIO (second line)	Audio format PCM (PCM) or No PCM (no PCM)
AUDIO (third line)	Quantization bit
COL SP	Color space (AVI Info) 422 or 444 or RGB *2
COLMET	Colorimetry (AVI Info)
ASPECT	Aspect (AVI Info)
ACTIVE	Active format (AVI Info)
V FMT	Video format (AVI Info)
PIX RP	Pixel count
SOURCE (first line)	Vendor name of the emission device
SOURCE (second line)	Model name of the emission device

*1: Confirm if this item is displayed when the audio is not outputted.

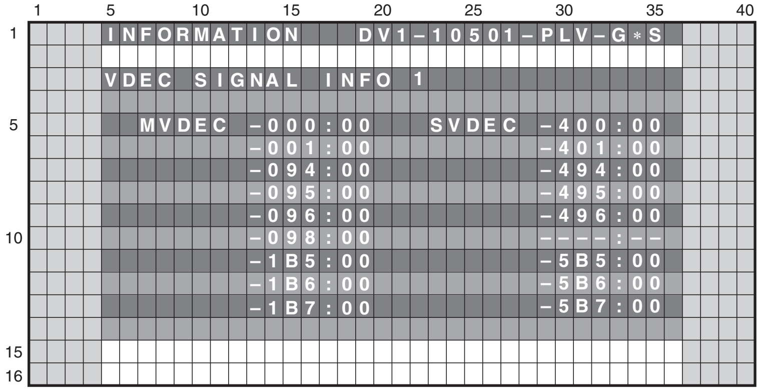
*2: If may not match to the state of emission devices when the color is abnormal.

Display of HDMI FACTORY and correspondence of resolution

Please confirm the following items when the picture doesn't come out.

Input Signal	FACTORY Display				
	H RES	V RES	H DE	V DE	V FMT
480i (525i)@60	858	262 or 263	720	240	720x480i@60
480p (525p)@60	858	525	720	480	720x480p@60
1080i (1125i)@60	2200	562 or 563	1920	540	1920x1080i@60
720p (750p)@60	1650	750	1280	720	1280x720p@60
1080p (1125p)@60	2200	1125	1920	1080	1920x1080p@60
1080p (1125p)@24	2750	1125	1920	1080	1920x1080p@24
576i (625i)@50	864	312 or 313	720	288	720x576i@50
576p (625p)@50	864	625	720	576	720x576p@50
1080i (1125i)@50	2640	562 or 563	1920	540	1920x1080i@50
720p (750p)@50	1980	750	1280	720	1280x720p@50
1080p (1125p)@50	2640	1125	1920	1080	1920x1080p@50

[1-9] VDEC SIGNAL INFO 1

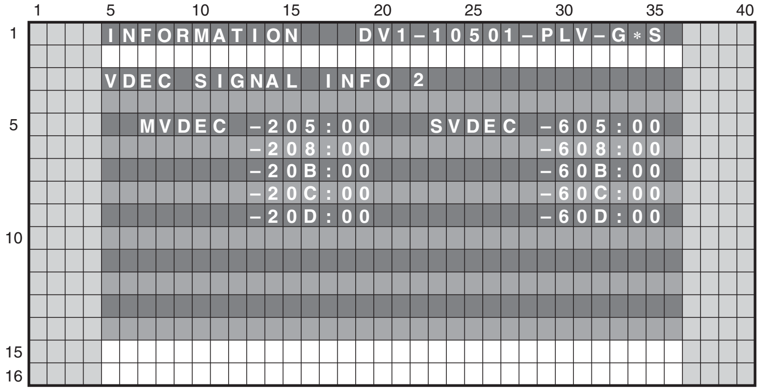


```
INFORMATION   DV1-10501-PLV-G*S

VDEC SIGNAL  INFO 1

  MVDEC -000:00    SVDEC -400:00
        -001:00          -401:00
        -094:00          -494:00
        -095:00          -495:00
        -096:00          -496:00
        -098:00          ----:--
        -1B5:00          -5B5:00
        -1B6:00          -5B6:00
        -1B7:00          -5B7:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	000h	400h	Line system distinction result
	001h	401h	VTR distinction result
	094h	494h	Slot number
	095h	495h	Color system distinction result
	096h	496h	ACC coefficient
	098h	---	3D YC flag
	1B5h	5B5h	MV detection 1
	1B6h	5B6h	MV detection 2
	1B7h	5B7h	MV detection 3

[1-10] VDEC SIGNAL INFO 2



```
INFORMATION   DV1-10501-PLV-G*S

VDEC SIGNAL  INFO 2

  MVDEC -205:00    SVDEC -605:00
        -208:00          -608:00
        -20B:00          -60B:00
        -20C:00          -60C:00
        -20D:00          -60D:00
```

Displays signal status that is input to VDEC.

Device	Sub Address (Main screen)	Sub Address (Sub screen)	Meaning
VDEC	205h	605h	CC detection 1
	208h	608h	CC detection 2
	20Bh	60Bh	CC-CRI detection
	20Ch	60Ch	XDS content advisory 0
	20Dh	60Dh	XDS content advisory 1

[2] PANEL FACTORY (+)

■ Operation Items

No.	Function	Content	RS-232C
[2-1]	PANEL INFORMATION	——	——
[2-2]	PANEL WORKS	——	——
[2-3]	POWER DOWN	——	——
[2-4]	SHUT DOWN	——	——
[2-5]	PANEL-1 ADJ (+)	——	——
[2-6]	PANEL-2 ADJ (+)	——	——
[2-7]	PANEL FUNCTION (+)	——	——
[2-8]	ETC. (+)	——	——
[2-9]	RASTER MASK SETUP (+)	——	——
[2-10]	PATTERN MASK SETUP (+)	——	——
[2-11]	COMBI MASK SETUP (+)	——	——

Note: For details on the setting items, refer to the Service manual of the PLASMA DISPLAY (KRP-600P, KRP-500P).

[3] PANEL MAIN FACTORY (+)

■ Operation Items

No.	Function	Content	RS-232C
[3-1]	PM NG INFO	——	——
[3-2]	PM STATE INFO	——	——
[3-3]	DP_RX INFO	——	——
[3-4]	PM_SETUP (+)	——	——

Note: For details on the setting items, refer to the Service manual of the PLASMA DISPLAY (KRP-600P, KRP-500P).

[4] OPTION

Operation item

No.	Function	Content	RS-232C
[4-1]	CH PRESET <=>	Set the channel map for production line	SCP
[4-2]	AFT <=>	Set AFT of the Analog broadcasting	AFT
[4-3]	SYNC DET (+)	Set the synchronized signal detection of VDEC	——
[4-4]	CTI (+)	Set the synchronized signal detection of VDEC	——

[4-1] CH PRESET <=>

Exclusively used for production line.

[4-2] AFT <=>

Exclusively used for production line.

[4-3] SYNC DET (+)

Exclusively used for technical analysis (details omitted).

[4-4] CTI (+)

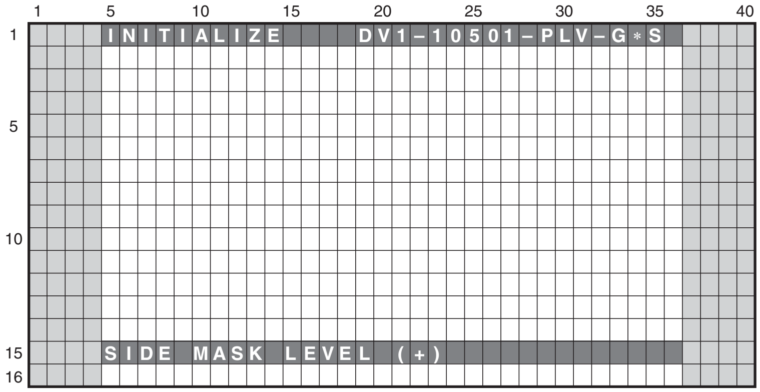
Exclusively used for technical analysis (details omitted).

[5] INITIALIZE

Operation item

No.	Function	Content	RS-232C
[5-1]	SIDE MASK LEVEL (+)	Configure the color of the side mask.	SML
[5-2]	FINAL SETUP	Initialize flash memorys on virgin product status	FST
[5-3]	Wide XGA AUTO <=>	Exclusively used for technical analsyis.	–––
[5-4]	AUTO ADJUST. <=>	Perform the auto-adjustment setting process	–––

[5-1] SIDE MASK LEVEL (+)



INITIALIZE DV1–10501–PLV–G∗S

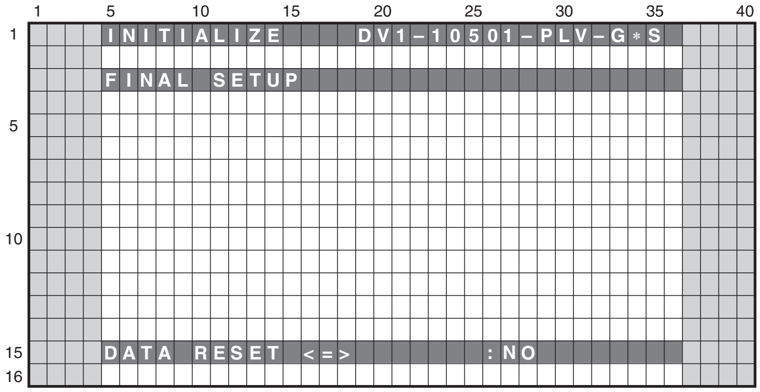
SIDE MASK LEVEL (+)

To configure sidemask level (To adjust the values, input signal is required).

Display Item	Content	RS-232C
SIDE MASK LEVEL <=>	Adjust Side Mask level (Adjustable range: 000 to 255, Initial value: 115)	SML

Note: In this mode (SIDE MASK LEVEL), adjustment value cannot changed with the VOLUME +/- keys.

[5-2] FINAL SETUP



INITIALIZE DV1–10501–PLV–G∗S

FINAL SETUP

DATA RESET <=> :NO

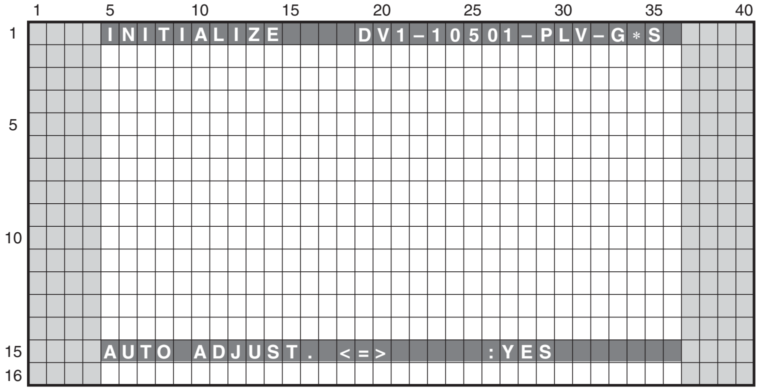
- To reset each memory values to factory default values. Factory command is "FST".
- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <GENERAL> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes as the general model.
- When the configuration is set to <CHINA> and the [ENTER/SET] key is pressed for 5 seconds, the reset action executes as the China model.

Be sure to disconnect and connect the AC cable after FINAL SETUP.
When replacing the MAIN BLOCK Assy, the FINAL SETUP is required.

[5-3] WIDE XGA AUTO <=>

Exclusively used for technical analysis (details omitted).

[5-4] AUTO ADJUST. <=>



INITIALIZE DV1–10501–PLV–G∗S

AUTO ADJUST. <=> :YES

- When the configuration is set to <NO> and the [ENTER/SET] key is pressed, no action is taken and the menu returns to previous screen.
- When the configuration is set to <YES> and the [ENTER/SET] key is pressed for 5 seconds, the auto-adjustment action executes.

- **Be sure to power off with the remote control unit or disconnect and connect the AC cable after the auto-adjustment is completed.**
- **When some ICs on the MAIN BLOCK Assy are replaced individually, auto-adjustment is required. For details on IC numbers, see the list "■ Parts whose replacement is difficult" in "6.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED."**

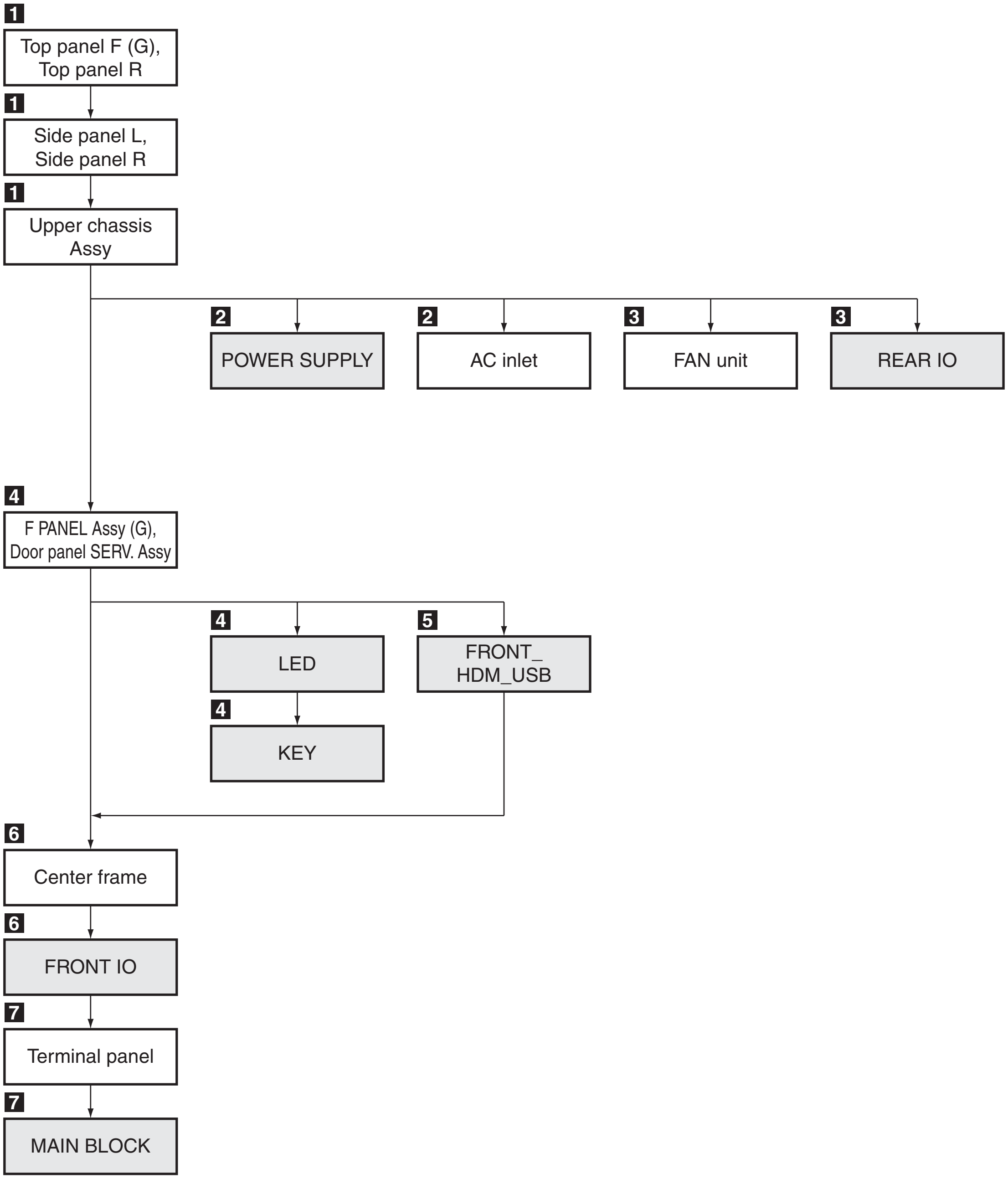
5. DISASSEMBLY

5.1 FLOWCHART OF REMOVAL ORDER

Note: Even if the unit shown in the photos and illustrations in this manual may differ from your product, the procedures described here are common.

Flowchart of removal order for the main parts and boards

It is efficient to proceed with removal of the main parts and boards in the order shown in the chart below:


1
Top panel F (G),
Top panel R
1
Side panel L,
Side panel R
1
Upper chassis
Assy
2
POWER SUPPLY
2
AC inlet
3
FAN unit
3
REAR IO
4
F PANEL Assy (G),
Door panel SERV. Assy
4
LED
4
KEY
5
FRONT_
HDM_USB
6
Center frame
6
FRONT IO
7
Terminal panel
7
MAIN BLOCK

5.2 DISASSEMBLY

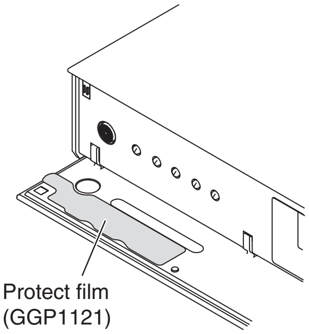
Disassembly

Preparations

- The high-gloss resin parts of the exterior of this product are easily scratched. During disassembly and reassembly of this product, be careful not to scratch the exterior.

- If the door of this product is pressed firmly from the front or when the KEY Assy and LED Assy are reassembled, print of the front-panel operating section may be transferred to the inside surface of the door. To avoid this, be sure to attach the protect film to the inside surface of the door before repairing. If protect film is not available, slip a cleaning cloth or the like inside the door for protection.

- Remove the attached protect film after product installation is completed. If the repaired product is to be delivered to the customer' s home or a dealer, leave the protect film attached.



Note on Disassembly/Reassembly

Fixing screws for the HDMI connector and system cable connector

For tightening the screws for the HDMI connector and system cable connector, do not use an electric screwdriver. Tighten them manually. If they are tightened too forcefully with an electric screwdriver, the screw heads may be damaged, in which case the screws cannot be loosened/tightened any more.

1 Exterior Section

**The high-gloss resin parts of the exterior of this product are easily scratched.
During disassembly and reassembly of this product, be careful not to scratch the exterior.**

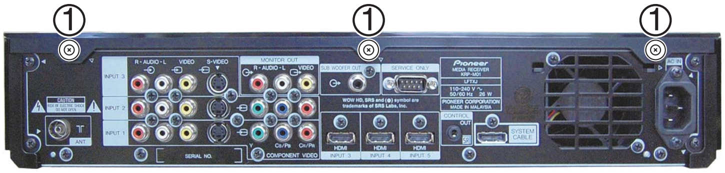
● Top panel F (G) and R

① Remove the three collar and three screws.
(ABA1391)

• Reference

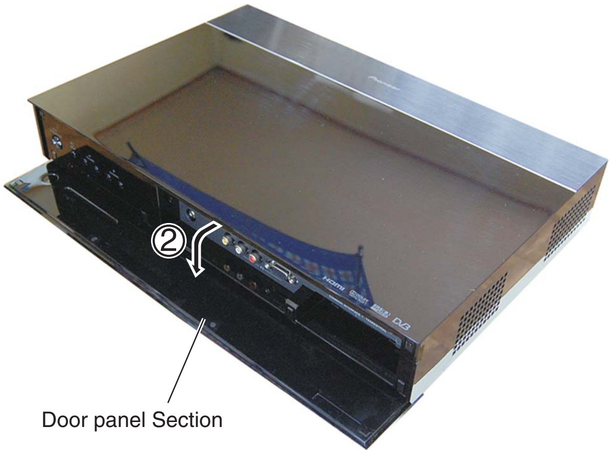
Collar

ABA1391

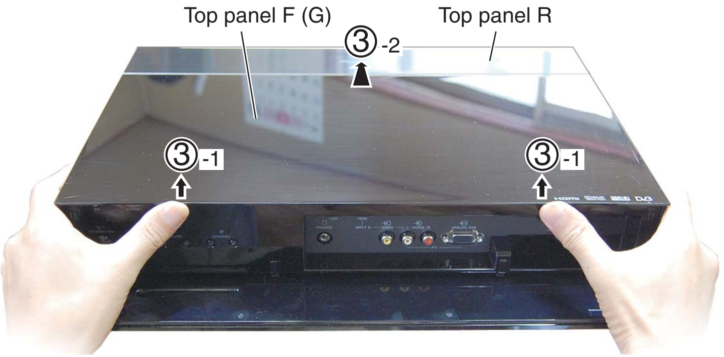


• Rear view

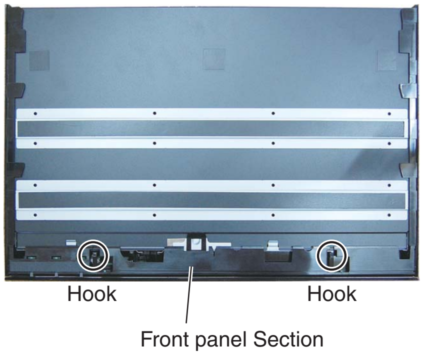
② Open the door panel Section.

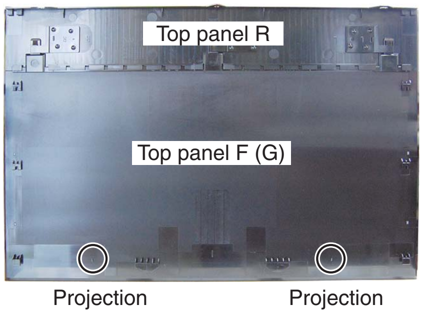


③ While pushing up at two places of the top panel using your thumbs, as shown in the photo below, to unhook the top panel, remove it by sliding it toward the rear panel.


Top panel F (G)
Top panel R
③-2
③-1
③-1

● **Positions of the hooks**


Hook
Hook
Front panel Section

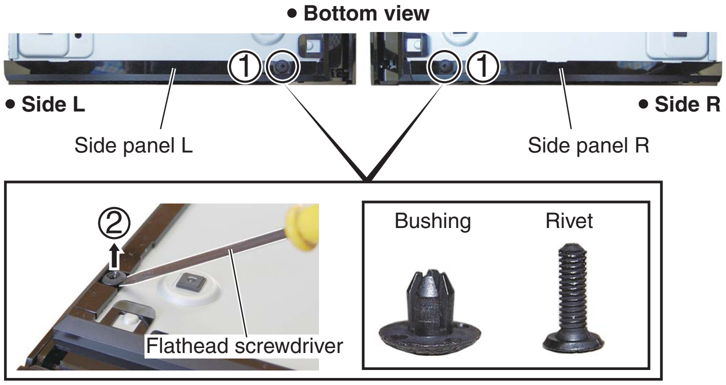

Top panel R
Top panel F (G)
Projection
Projection

• **Bottom view**

● **Side panel L and R**

① Remove the two rivets.

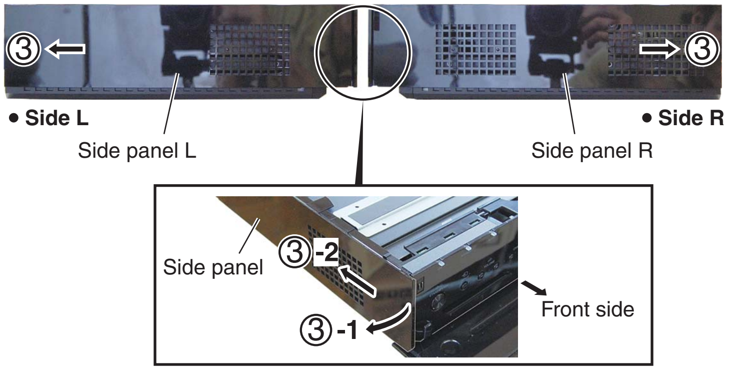
② Remove the two bushings, using a flathead screwdriver.


• Bottom view
①
①
• Side L
• Side R
Side panel L
Side panel R
②
Flathead screwdriver
Bushing
Rivet

③ Remove the side panels L and R.

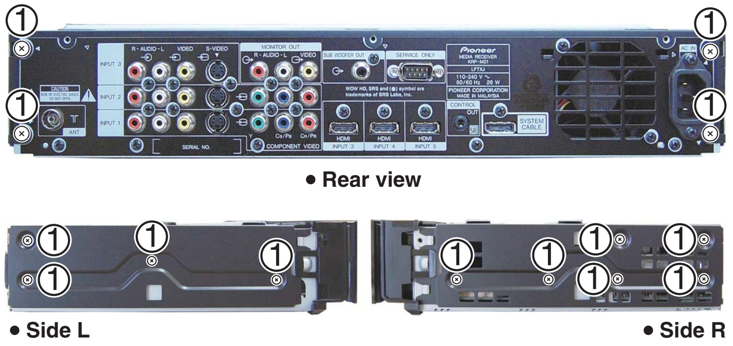
③-1 ③-2

Slide the side panel rearward, by stretching the front edge of the side panel outward, and remove it.


③
③
• Side L
• Side R
Side panel L
Side panel R
Side panel
③-2
③-1
Front side

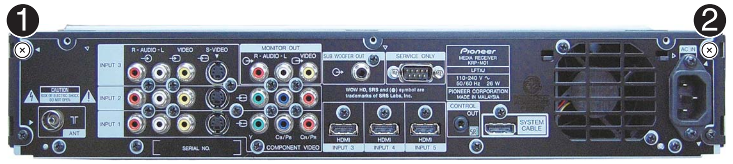
● Upper chassis Assy

① Remove the 14 screws. (BBZ30P060FTB)

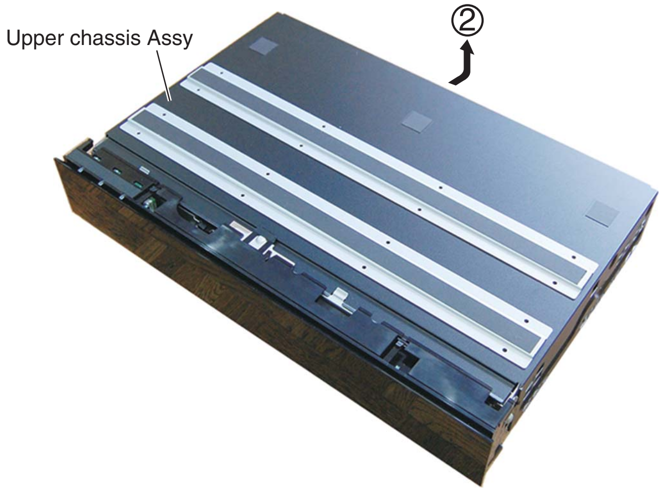

①
①
①
①
● Rear view
①
①
①
①
①
①
①
①
①
①
● Side L
● Side R

● Screw tightening order

The other screws are random order.

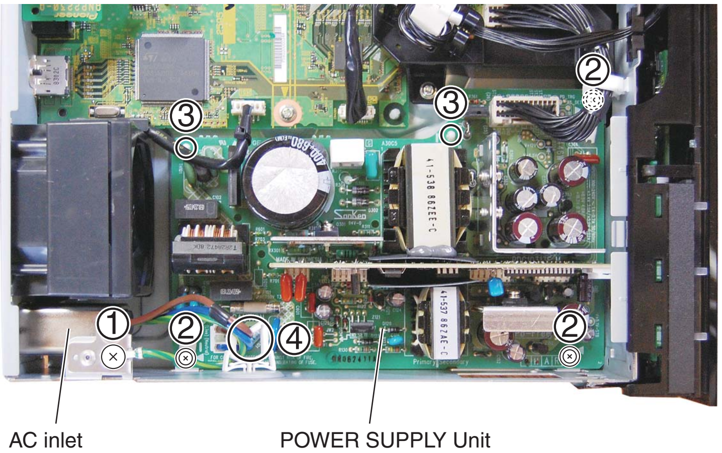


② Remove the upper chassis Assy.


Upper chassis Assy
②

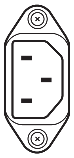
2 POWER SUPPLY Unit

① Remove the one screw. (BMP40P080FSN)
② Remove the three screws. (BBB30P080FSN)
③ Remove the two circuit board spacers.
④ Release the jumper wire.

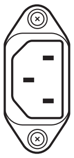

②
③
③
①
②
④
②
AC inlet
POWER SUPPLY Unit

⑤ Remove the two screws. (ABZ30P080FTB)
⑥ Remove the AC inlet.

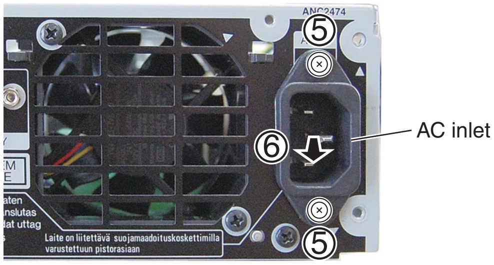
- **An installation direction of the AC inlet**



OK

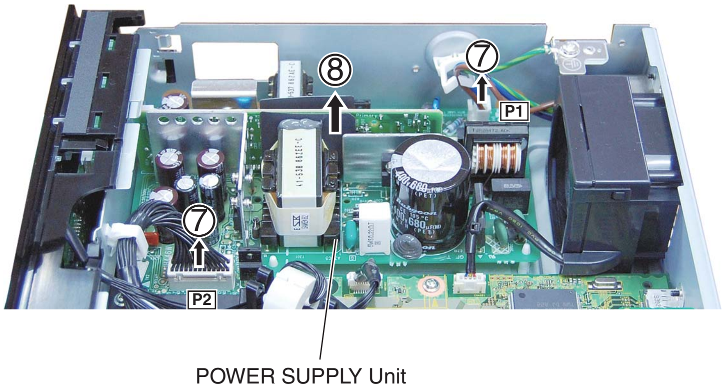


NG


ANC2474
⑤
⑥
AC inlet
⑤
Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan

- **Rear view**

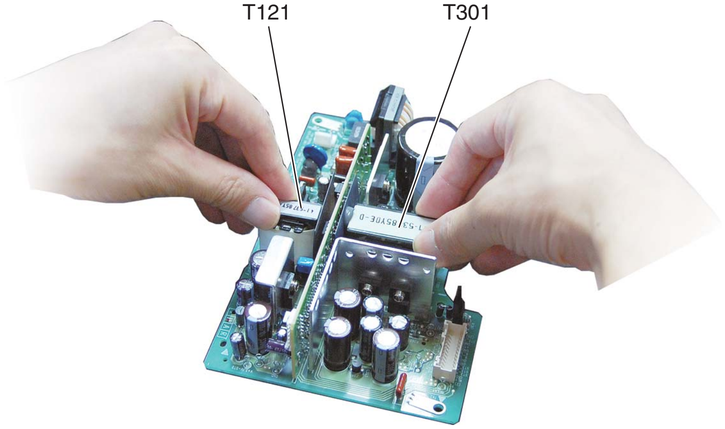
⑦ Disconnect the two connectors.
⑧ Remove the POWER SUPPLY Unit.


⑧
⑦
P1
⑦
P2
POWER SUPPLY Unit

Notes on Removing the POWER SUPPLY Unit

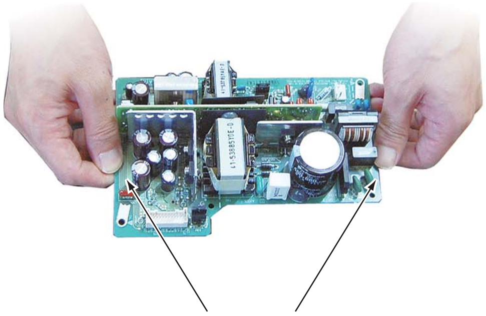
● How to lift up the POWER SUPPLY Unit

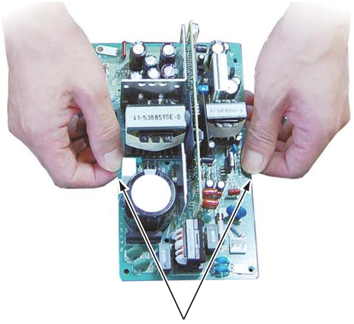
When you remove the POWER SUPPLY Unit from the chassis, first lift the board by pinching T121 and T301 transformers with your fingers. When the board is lifted up to a certain height, hold it by hand. NEVER hold the board by the radiator that is adjacent to the transformer.



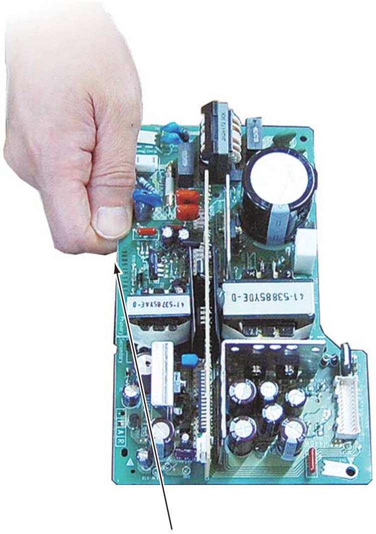
● How to hold the board after removing it from the chassis

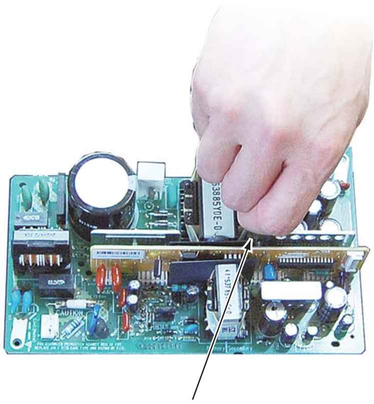
The following two ways are recommended for holding the POWER SUPPLY Unit:


Hold at the center positions of both rims of the board.


Hold at the center positions of both rims of the board.

Ways to be avoided:


NEVER hold a corner of the board with one hand.


NEVER hold the board by the radiator with one hand.

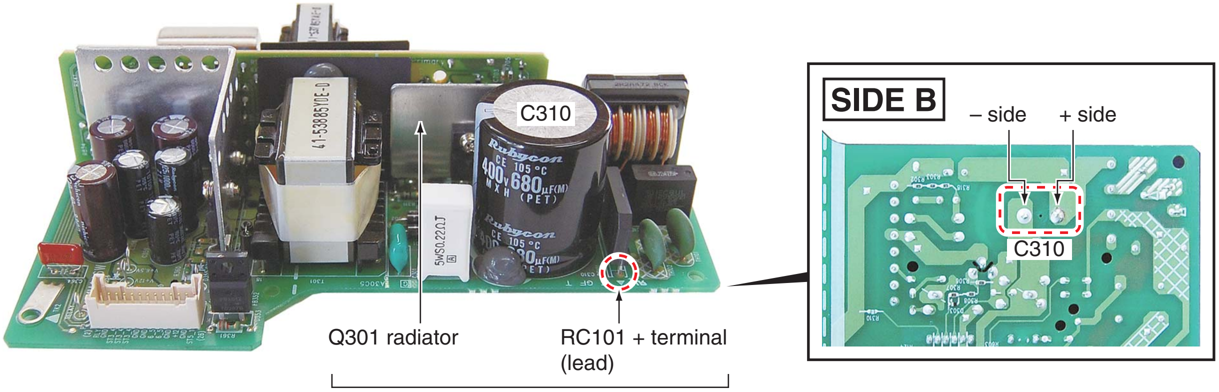
Note on Removing the POWER SUPPLY Unit from the Chassis and Method for Resetting Standby Power Latchup

For 3-5 minutes after the unit is turned off, residual electric charge remains in the C310 capacitor on the POWER SUPPLY Unit. Before removing the POWER SUPPLY Unit from the chassis, be sure to confirm that residual charge inside the POWER SUPPLY Unit has become sufficiently low. (Without forced discharge, residual charge that remains after 3-5 minutes will fall to one-tenth or less, which is still about 20 V. Therefore, even after the POWER SUPPLY Unit is removed, it is recommended to perform forced discharge on the POWER SUPPLY Unit, as shown below.)

For quick removal of residual charge, forced discharge is recommended, using two 220 ohm/10 W resistors (440 ohm/20 W).

● How to remove the POWER SUPPLY Unit

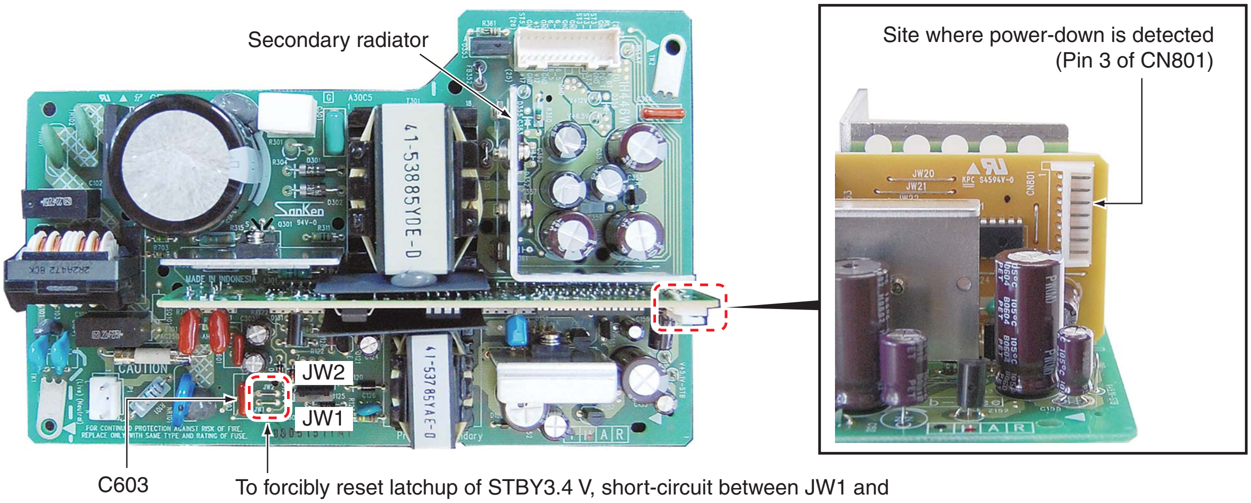
1. Make sure that the AC power cord is unplugged. Using a tester, check the voltage between the + terminal of RC101 bridge diode and Q301 radiator (equivalent to the voltage between two electrodes of C310).
2. Let the unit sit for more than 5 minutes until the voltage equivalent to that between two electrodes of C310 falls to under 20 V.
3. After checking that the voltage is under 20 V, disconnect the connectors of the POWER SUPPLY Unit and remove the POWER SUPPLY Unit.
4. Using two resistors mentioned above, completely discharge residual charge from C310.



After checking that the voltage at the measurement points
(equivalent to the voltage between two electrodes of C310)
is under 20 V, remove the POWER SUPPLY Unit.
Then, completely discharge residual charge, using resistors.

● How to reset Standby power latchup (In a case where the protection against Standby power excess voltage is activated)

1. After removing the causes of the malfunction, short-circuit between the JW1 and JW2 jumpers.
2. If the POWER SUPPLY Unit functions properly, after opening the above jumpers, the unit starts up.

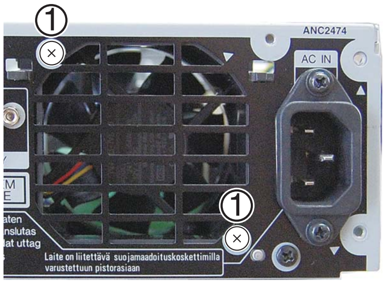


To forcibly reset latchup of STBY3.4 V, short-circuit between JW1 and JW2 (near C603), using a flathead screwdriver or similar object.
If the causes of the malfunction are removed, after opening the jumpers, the unit starts up.

3 REAR IO Assy

● FAN unit

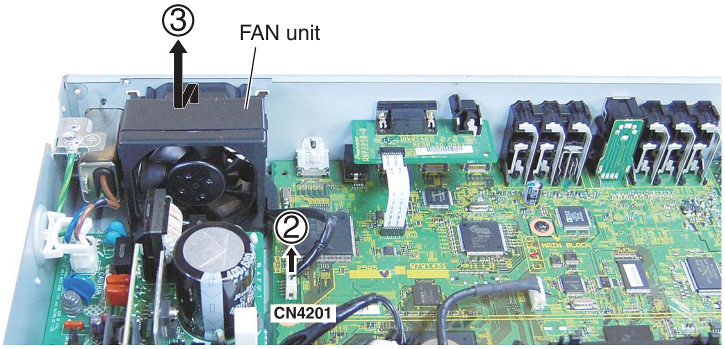
① Remove the two screws. (BPZ30P080FTB)


①
①
ANC2474
AC IN
Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan

● Rear view

② Disconnect the one connector.

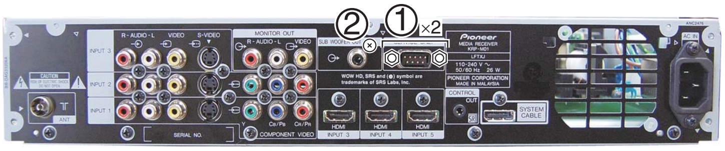
③ Remove the FAN unit.


③
FAN unit
②
CN4201

● REAR IO Assy

① Remove the two hexagon headed screws. (ABA1382)

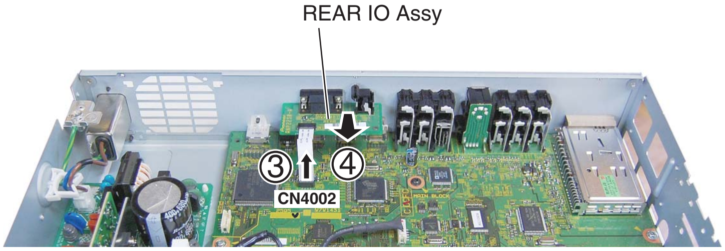
② Remove the one screw. (BPZ30P080FTB)



● Rear view

③ Disconnect the one flexible cable.

④ Remove the REAR IO Assy.

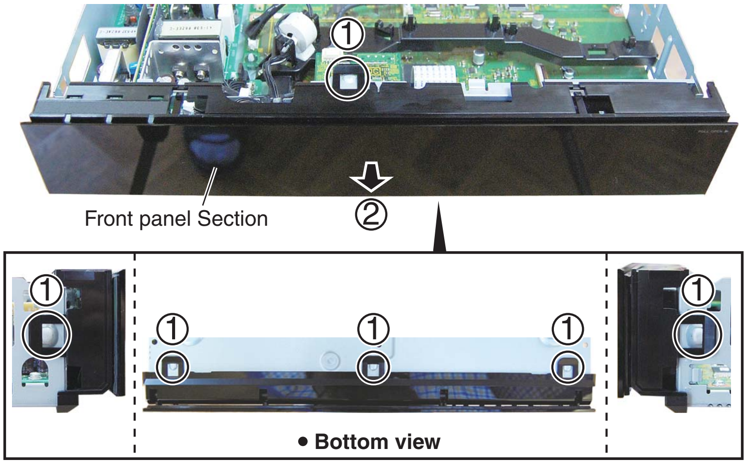

REAR IO Assy
③
④
CN4002

4 Front Panel Section

● Front panel Section

① Unhook the six hooks.

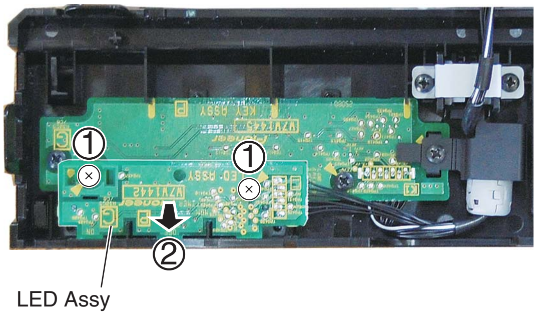
② Remove the front panel Section.


①
②
Front panel Section
①
①
①
①
①
● Bottom view

● LED and KEY Assys

① Remove the two screws. (BPZ30P080FTB)

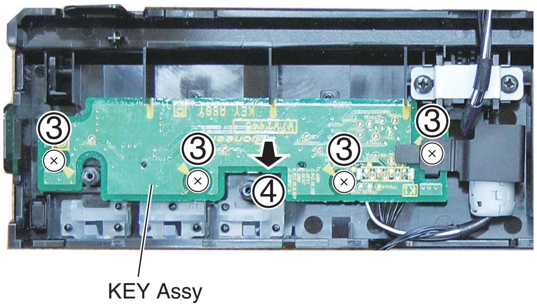
② Remove the LED Assy.


①
①
②
LED Assy

③ Remove the four screws. (BPZ30P080FTB)

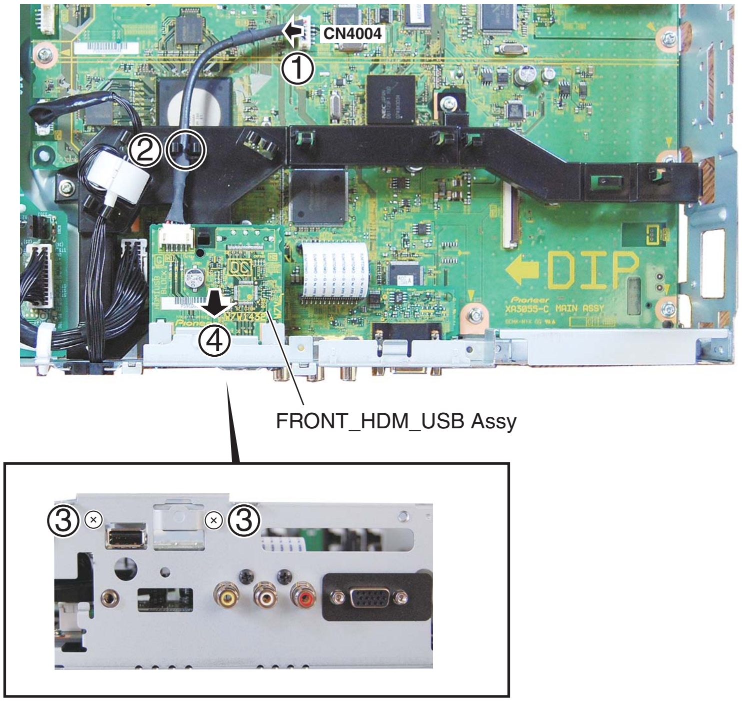
④ Remove the KEY Assy.

Note:
Before tightening screws, make sure that the protect film has been attached.
(For details on the place at which the protect film is to be attached, see "■ Preparations.")


③
③
③
③
④
KEY Assy

5 FRONT_HDM_USB Assy

① Disconnect the one connector.
② Release the jumper wire.
③ Remove the two screws. (BBZ30P060FTB)
④ Remove the FRONT_HDM_USB Assy.


CN4004
①
②
④
FRONT_HDM_USB Assy
③
③

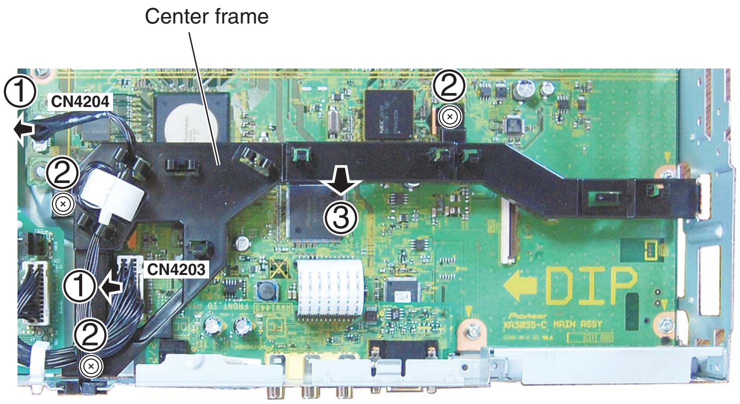
6 FRONT IO Assy

● Center frame

① Disconnect the two connectors.

② Remove the three screws. (ABA1383)

③ Remove the center frame.

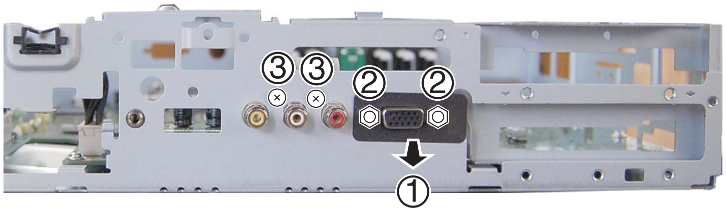

Center frame
①
CN4204
②
②
③
CN4203
①
②
DIP
XR3855-C MAIN ASSY

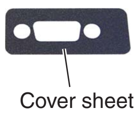
● FRONT IO Assy

① Remove the cover sheet.

② Remove the two hexagon headed screws. (ABA1382)

③ Remove the two screws. (BPZ30P080FTB)

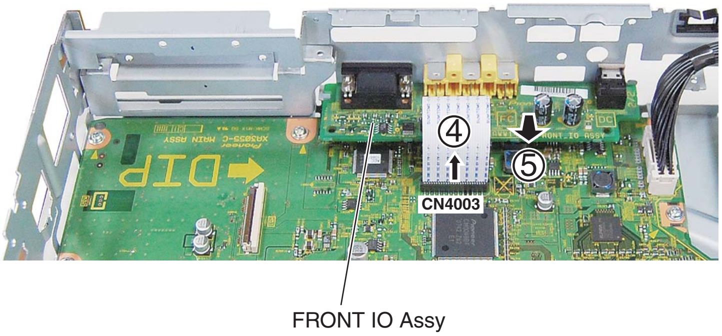



Cover sheet

- Be sure not to lose it.

④ Disconnect the one flexible cable.

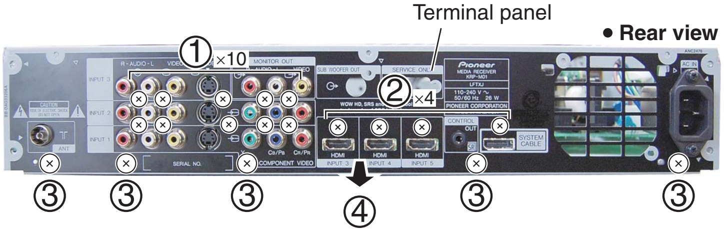
⑤ Remove the FRONT IO Assy.


④
⑤
CN4003
DIP
FRONT IO Assy

7 MAIN BLOCK Assy

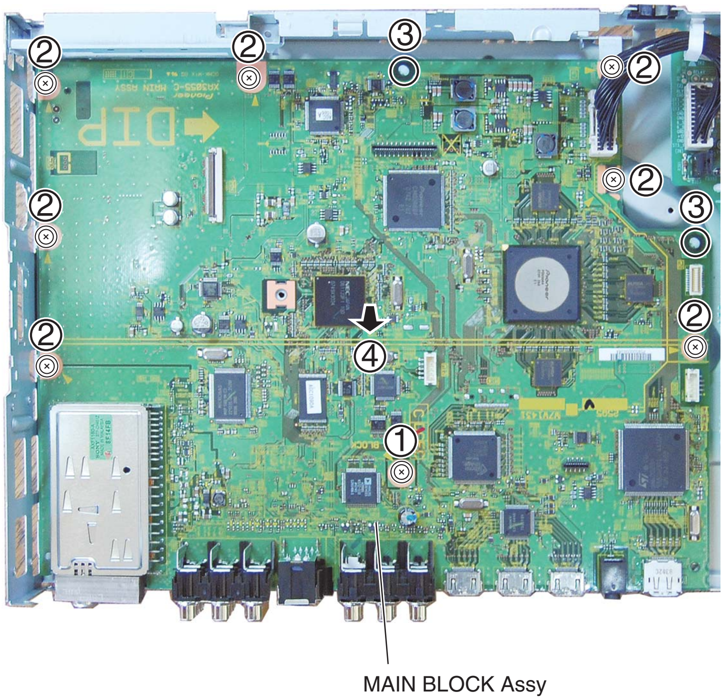
● Terminal panel

① Remove the 10 screws. (BPZ30P080FTB)
② Remove the four screws. (BMZ30P060FTB)
③ Remove the five screws. (BBZ30P060FTB)
④ Remove the terminal panel.


Terminal panel
● Rear view
①×10
②×4
③
③
③
④
③
③

● MAIN BLOCK Assy

① Remove the one screw. (AMZ30P060FTB)
② Remove the seven screws. (ABA1383)
③ Remove the two circuit board spacers.
④ Remove the MAIN BLOCK Assy.


②
②
③
②
②
③
②
②
②
④
①
MAIN BLOCK Assy

6. EACH SETTING AND ADJUSTMENT

The following items in the service manual of KRP-M01/WYSIXK5 are not applicable to this model.

HOW TO UPDATE USB
HOW TO UPDATE DISPLAY PORT FIRMWARE

1. At shipment, the unit is adjusted to its best conditions. Normally, it is not necessary to readjust even if an assembly is replaced. If the adjustment is shifted or if it becomes necessary to readjust because of part replacement, etc., perform the adjustment as described below.
2. Any value changed in Service/Factory mode will be stored in memory as soon as it is changed. Before readjustment, take note of the original values for reference in case you need to restore the original settings.
3. Use a stable AC power supply.

6.1 ADJUSTMENT REQUIRED WHEN THE UNIT IS REPAIRED OR REPLACED

■ When any of the following assemblies is replaced

POWER SUPPLY Unit	➡	No adjustment required
MAIN BLOCK Assy (*)	➡	Execute section [5-4] AUTO ADJUSTMENT of 4.2 [5] INITIALIZE.
Other assemblies	➡	No adjustment required

(*) : When replacing the MAIN BLOCK Assy, be sure to perform the FINAL SETUP.

■ Replacement of the whole Assy is required when one of the following part on the corresponding Assy is in failure

PCB Assy No.	Assy Name	Ref No.	Function Name	Part No.	Reason
AWW1431	MAIN BLOCK Assy	IC5002	HDCP EEPROM	BR24L02FV-W	Because adjustments and data writing at the level of production line are required after replacement
		IC5003	HDCP EEPROM	BR24L02FV-W	
		IC5004	HDCP EEPROM	BR24L02FV-W	
		IC7004	EMMA2 EEPROM	BR24L64F-W	
		IC6701	Flash ROM	AGC1091	
		IC6811	IF UCOM	AGC1086	
		IC7202	Flash ROM	AGC1090	
AWW1443	FRONT IO Assy	IC8501	PC EEPROM	BR24L01AFJ-W	Because adjustments and data writing at the level of production line are required after replacement

Part whose replacement is difficult

PCB Assy No.	Assy Name	Ref No.	Function Name	Part No.	Reason
AXY1223	POWER SUPPLY Unit	U0003	—	—	The maker forbids Pioneer from repairing the Assy.
AWW1431	MAIN BLOCK Assy	IC7003	SYSTEM IC (EMMA2)	UPD61123F1-100KA3A-K	Because these ICs are packaged in BGA
		IC6501	ASIC (ARIA)	PD6568A-K	
		IC6702	DDR SDRAM (ARIA)	EDD1232ABBH-5C-E-K	
		IC6703	DDR SDRAM (ARIA)	EDD1232ABBH-5C-E-K	
		IC6704	DDR SDRAM (ARIA)	EDD1232ABBH-5C-E-K	
		IC4801	ADC	AD9985KSTZ	Because these ICs require readjustment after replacement
		IC5101	AV SW	R2S11006FT	
		IC5501	RGB SW	R2S11001FT	
		IC4702	VDEC	CM0048BF	
		IC4901	HDMI	SII9135CTU-K	Because a radiation pad is provided
		IC4601	Regulator	LTC3407EMSE-2	

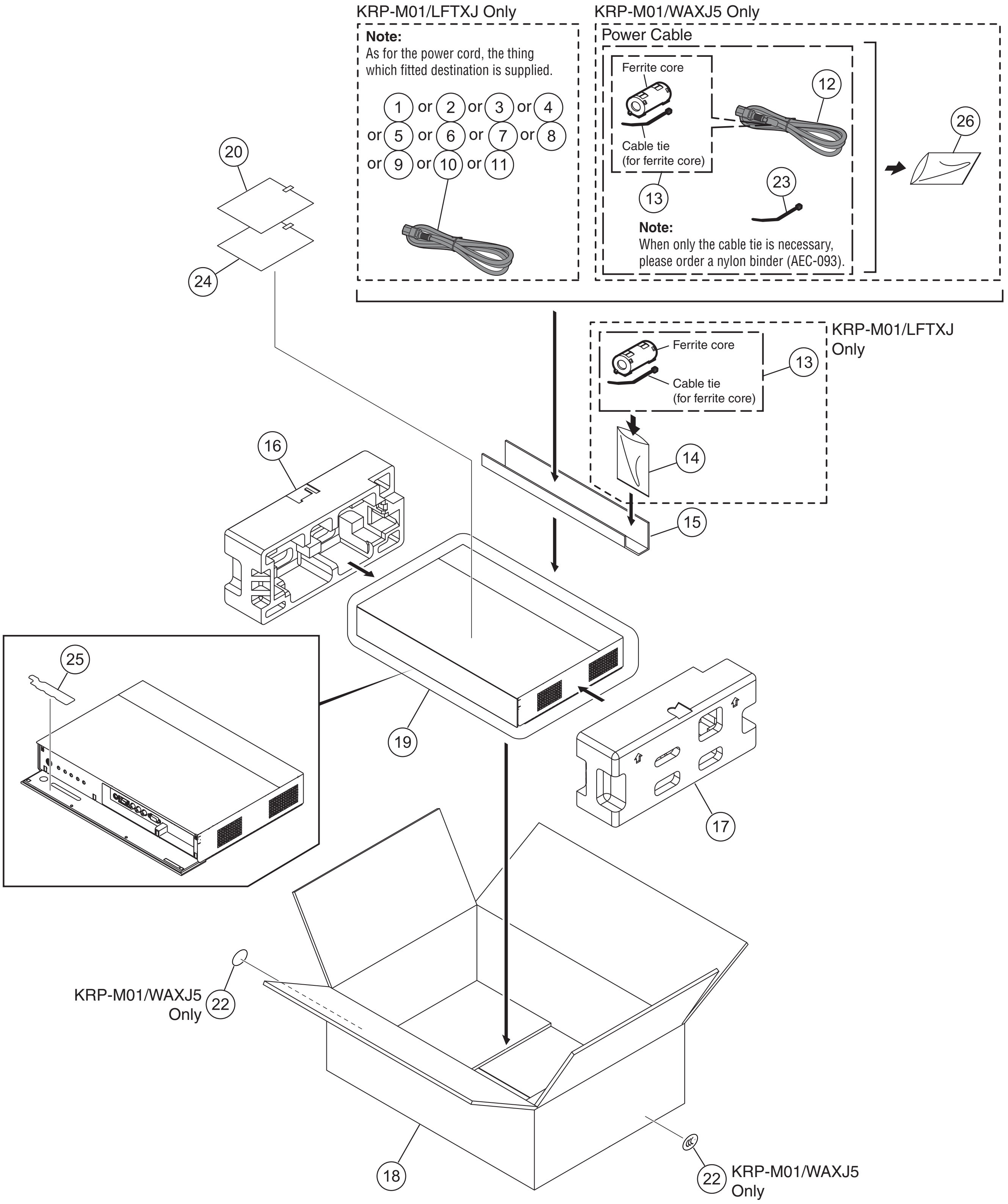
Adjustment Procedures After a Part that Requires Readjustment is Replaced

Execute section [5-4] AUTO ADJUST. <=> of 4.2 [5] INITIALIZE.

7. EXPLODED VIEWS AND PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screws adjacent to ▼ mark on product are used for disassembly.*
- *For the applying amount of lubricants or glue, follow the instructions in this manual. (In the case of no amount instructions, apply as you think it appropriate.)*

7.1 PACKING SECTION


KRP-M01/LFTXJ Only
1 or 2 or 3 or 4
or 5 or 6 or 7 or 8
or 9 or 10 or 11
KRP-M01/WAXJ5 Only
Power Cable
Ferrite core
Cable tie
(for ferrite core)
12
13
23
26
20
24
KRP-M01/LFTXJ
Only
Ferrite core
Cable tie
(for ferrite core)
13
14
15
16
25
19
17
KRP-M01/WAXJ5
Only
22
18
22
KRP-M01/WAXJ5
Only

Note:
As for the power cord, the thing which fitted destination is supplied.

Note:
When only the cable tie is necessary, please order a nylon binder (AEC-093).

(1) PACKING SECTION PARTS LIST

Mark	No.	Description	Part No.
⚠ NSP	1	Power Cord	See Contrast table (2)
⚠ NSP	2	Power Cord	See Contrast table (2)
⚠ NSP	3	Power Cord	See Contrast table (2)
⚠ NSP	4	Power Cord	See Contrast table (2)
⚠ NSP	5	Power Cord	See Contrast table (2)
⚠ NSP	6	Power Cord	See Contrast table (2)
⚠ NSP	7	Power Cord	See Contrast table (2)
⚠ NSP	8	Power Cord	See Contrast table (2)
⚠ NSP	9	Power Cord	See Contrast table (2)
⚠ NSP	10	Power Cord Assy	See Contrast table (2)
⚠	11	Power Cord Set	See Contrast table (2)
⚠	12	Power Cord	See Contrast table (2)
⚠	13	Ferrite Core (L5208)	ATX1039
	14	Polyethylene Bag	See Contrast table (2)
	15	ACC Carton (G)	AHD3679

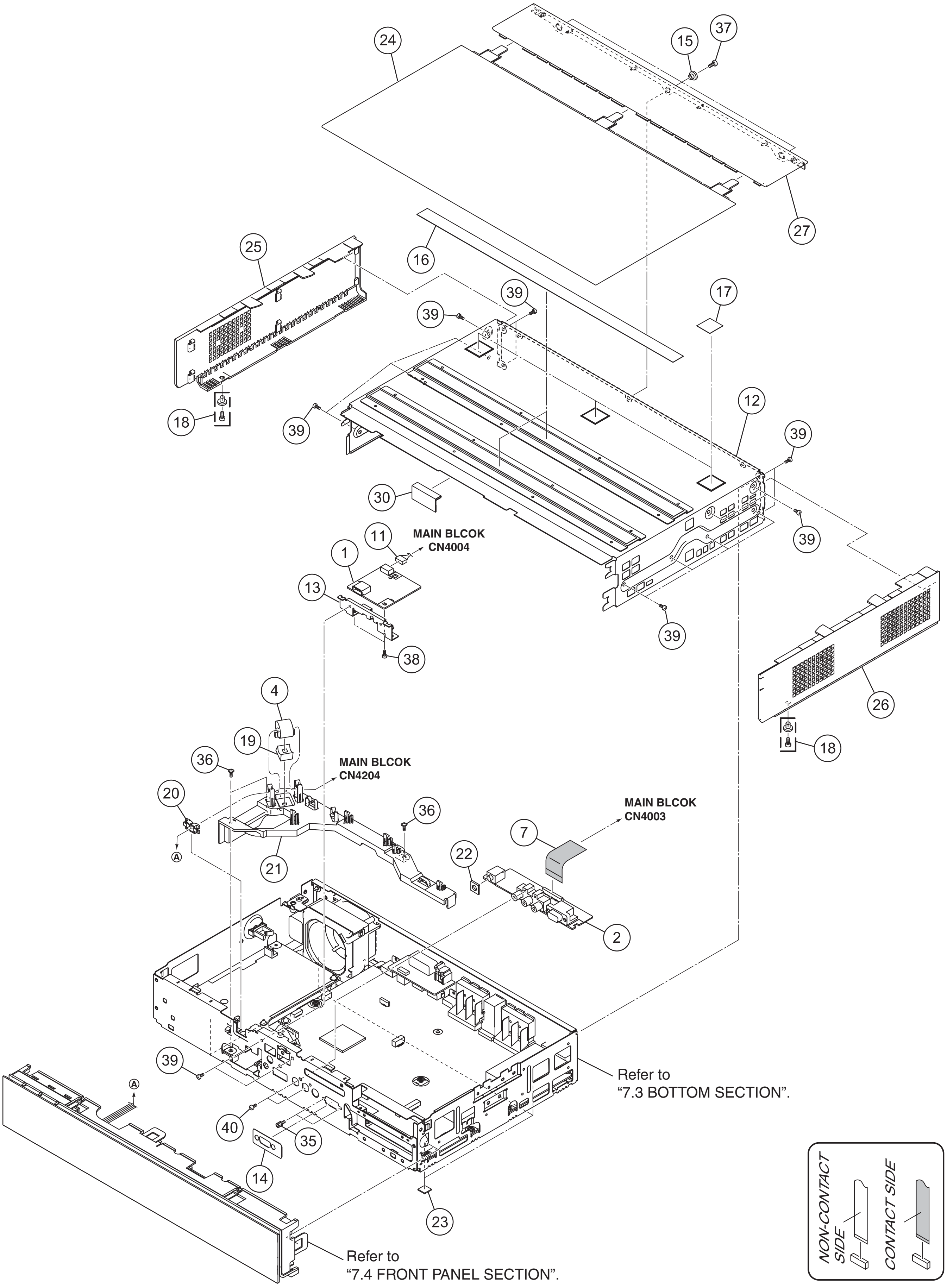
Mark	No.	Description	Part No.
	16	Pad L (G)	AHA2739
	17	Pad R (G)	AHA2740
	18	Carton	See Contrast table (2)
	19	Mirror Mat	AHG1420
	20	Caution Card	See Contrast table (2)
	21	• • • • •	
NSP	22	CCC S&E Label	See Contrast table (2)
	23	Nylon Binder	See Contrast table (2)
	24	Film Caution Card	See Contrast table (2)
	25	Protect Film	GGP1121
	26	Vinyl Bag	See Contrast table (2)

(2) CONTRAST TABLE

KRP-M01/LFTXJ and WAXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	KRP-M01/LFTXJ	KRP-M01/WAXJ5
⚠ NSP	1	Power Cord	ADG1232	Not used
⚠ NSP	2	Power Cord	ADG1234	Not used
⚠ NSP	3	Power Cord	ADG1236	Not used
⚠ NSP	4	Power Cord	ADG1239	Not used
⚠ NSP	5	Power Cord	ADG1241	Not used
⚠ NSP	6	Power Cord	ADG1243	Not used
⚠ NSP	7	Power Cord	ADG1244	Not used
⚠ NSP	8	Power Cord	ADG1246	Not used
⚠ NSP	9	Power Cord	ADG1251	Not used
⚠ NSP	10	Power Cord Assy	AWX1095	Not used
⚠	11	Power Cord Set	AXY1194	Not used
⚠	12	Power Cord	Not used	ADG1209
	14	Polyethylene Bag	AHG1433	Not used
	18	Carton (G)	AHD3676	Not used
	18	Carton (C)	Not used	AHD3685
	20	Caution Card	ARM1444	ARM1446
NSP	22	CCC S&E Label	Not used	DRW2310
	23	Nylon Binder	Not used	AEC-093
	24	Film Caution Card	ARM1449	ARM1451
	26	Vinyl Bag	Not used	AHG1336

7.2 EXTERIOR SECTION


24
15
37
27
25
16
39
39
17
18
39
12
39
30
11
MAIN BLCOK
CN4004
1
13
39
39
38
4
26
19
36
MAIN BLCOK
CN4204
20
36
MAIN BLCOK
CN4003
18
7
A
21
22
2
39
A
40
35
14
23
NON-CONTACT SIDE
CONTACT SIDE

Refer to
“7.3 BOTTOM SECTION”.

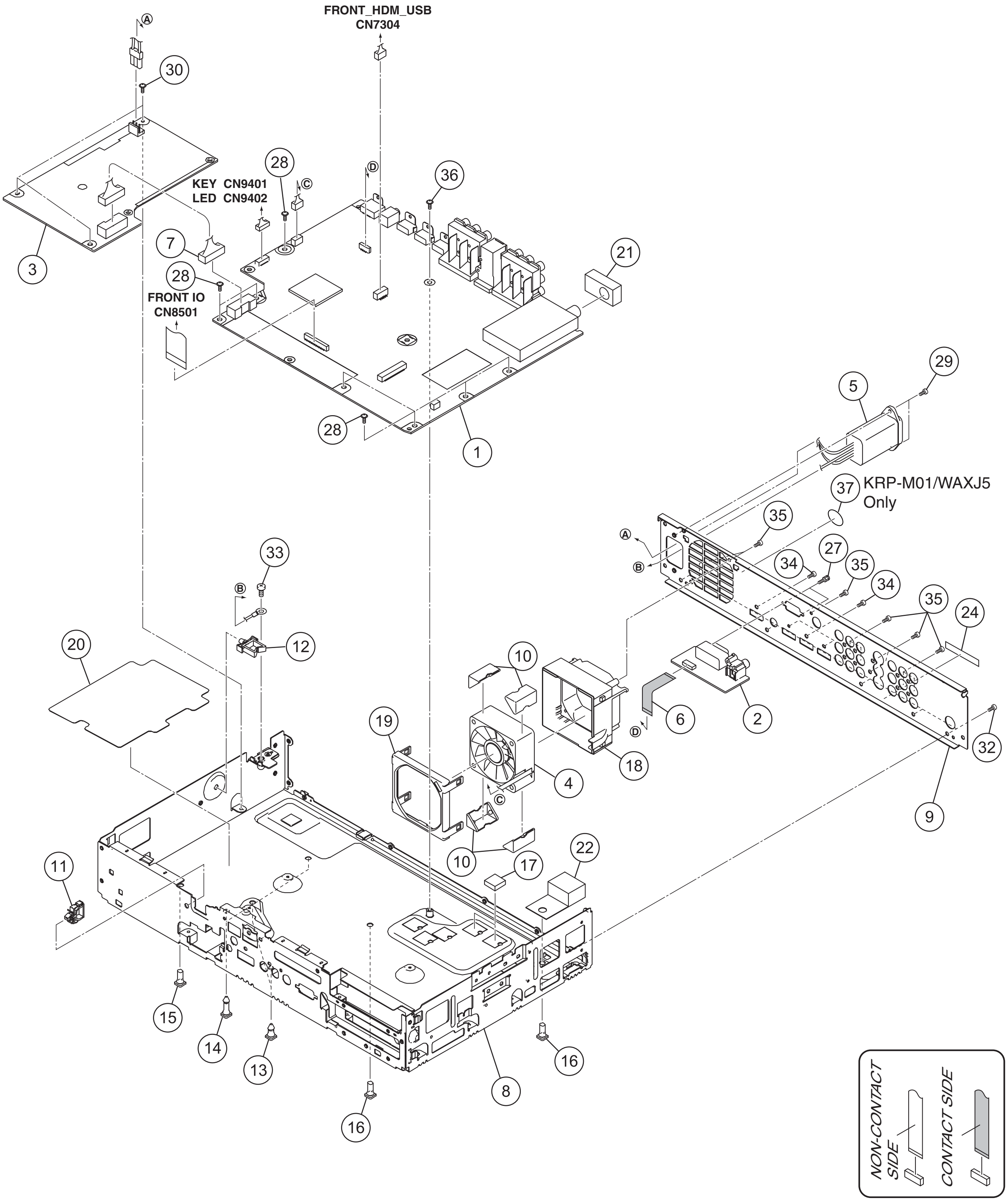
Refer to
“7.4 FRONT PANEL SECTION”.

EXTERIOR SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	FRONT_HDM_USB Assy	AWW1432
	2	FRONT IO Assy	AWW1443
	3	•••••	
⚠	4	Ferrite Core (F1001)	ATX1034
	5	•••••	
	6	•••••	
	7	Flexible Cable (J201)	ADD1564
	8	•••••	
	9	•••••	
	10	•••••	
	11	USB Cable (J102)	ADX3713
	12	Upper Chassis Assy	ANA2224
	13	PCB Holder	ANG3217
	14	Cover Sheet	AAK2850
	15	Collar	ABN1095
	16	Upper Cushion	AEB1504
	17	Top Cushion	AEB1505
	18	Scrivet	AEC1657
	19	Ferrite Core Holder	AEC1818
	20	Edge Saddle	AEC1946
	21	Center Frame	AMR3844
⚠	22	Gasket HP	ANK1994
	23	Rubber Foot	VEB1349
	24	Top Panel F (G)	AAK2962
	25	Side Panel L	AAK2941
	26	Side Panel R	AAK2942
	27	Top Panel R	AAK2946
	28	•••••	
	29	•••••	
⚠	30	Gasket UP2	ANK1999
	31	•••••	
	32	•••••	
	33	•••••	
	34	•••••	
	35	Hexagon Headed Screw	ABA1382
	36	Screw	ABA1383
	37	Screw	ABA1391
	38	Screw	ABZ30P060FTC
	39	Screw	BBZ30P060FTB
	40	Screw	BPZ30P080FTB

7.3 BOTTOM SECTION

Cleaning paper :
GED-008


A
30
3
FRONT_HDM_USB
CN7304
D
28
C
KEY CN9401
LED CN9402
36
7
21
28
FRONT IO
CN8501
1
28
29
5
37
KRP-M01/WAXJ5
Only
35
A
B
34
27
35
34
35
24
33
B
12
20
10
19
4
C
18
6
D
2
32
9
10
17
22
11
15
14
13
16
8
16
NON-CONTACT
SIDE
CONTACT SIDE

(1) BOTTOM SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	MAIN BLOCK Assy	AWW1431
	2	REAR IO Assy	AWW1461
⚠	3	POWER SUPPLY Unit	AXY1223
⚠	4	DC FAN Motor 60 x 25L	AXM1068
⚠	5	AC Inlet (CN1)	AKP1339
	6	Flexible Cable (J207)	ADD1568
	7	26P Housing Wire (J111)	ADX3674
	8	Base Chassis Assy	ANA2225
	9	Terminal Panel	See Contrast table (2)
	10	Floating Rubber 60	AEB1410
	11	Reuse Clamp	AEC2129
	12	Reuse Wire Saddle	AEC2134
	13	Circuit Board Spacer	AEC2150
	14	Circuit Board Spacer	AEC2151
	15	Circuit Board Spacer	AEC2152
	16	Circuit Board Spacer	AEC2163
	17	Silicon Sheet	AEH1182
	18	FAN Holder 60 A	AMR3918
	19	FAN Holder 60 B	AMR3919
	20	Insulation Sheet	AMR3891

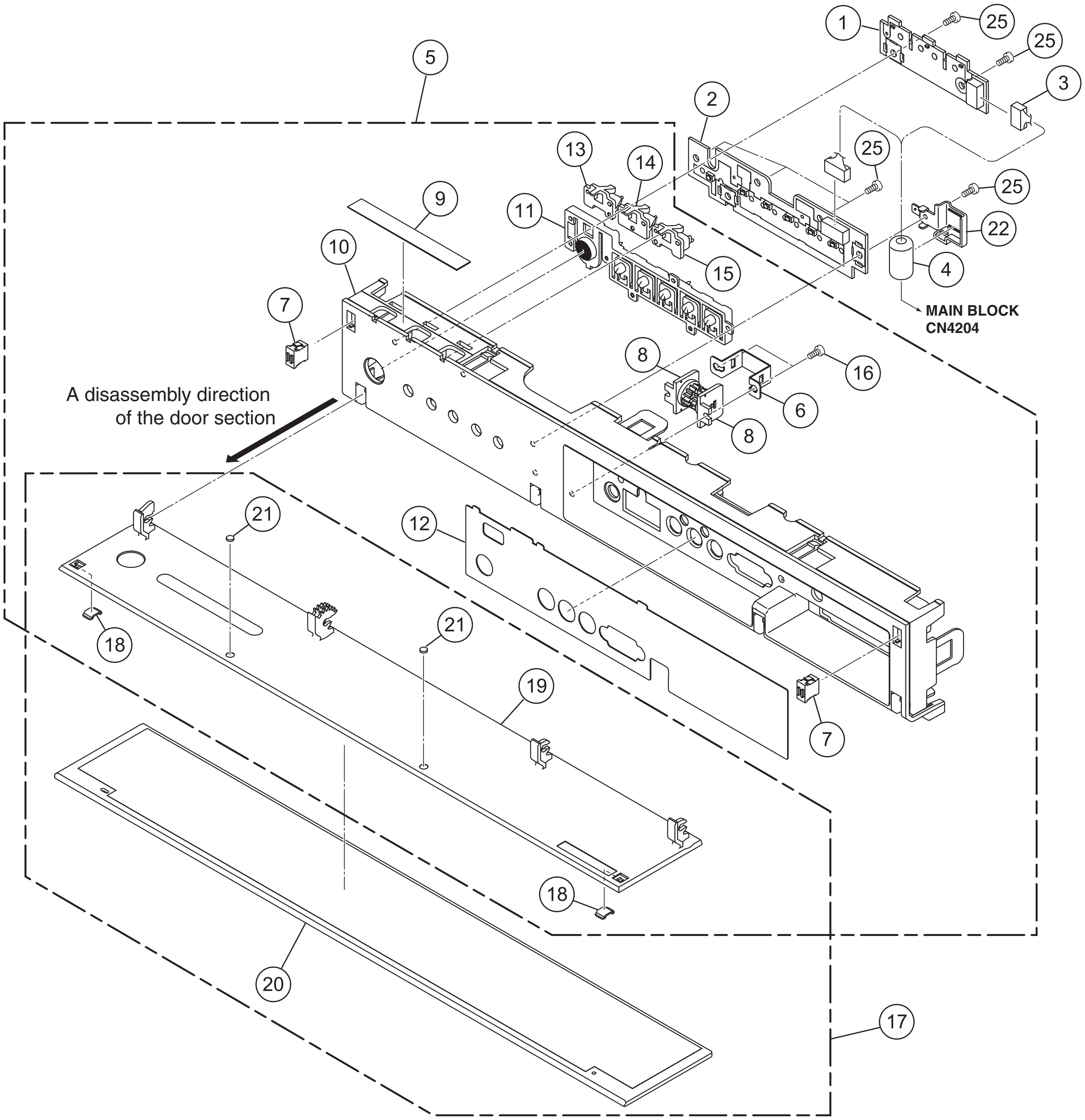
Mark	No.	Description	Part No.
⚠	21	Gasket GE	ANK1984
⚠	22	Gasket GE2	ANK1986
	23	• • • • •	
NSP	24	Serial Label	ARW1100
	25	• • • • •	
	26	• • • • •	
	27	Hexagon Headed Screw	ABA1382
	28	Screw	ABA1383
	29	Screw	ABZ30P080FTB
	30	Screw	BBB30P080FSN
	31	• • • • •	
	32	Screw	BBZ30P060FTB
	33	Screw	BMP40P080FSN
	34	Screw	BMZ30P060FTB
	35	Screw	BPZ30P080FTB
	36	Screw	AMZ30P060FTB
NSP	37	CCC S&E Label	See Contrast table (2)

(2) CONTRAST TABLE

KRP-M01/LFTXJ and WAXJ5 are constructed the same except for the following:

Mark	No.	Symbol and Description	KRP-M01/LFTXJ	KRP-M01/WAXJ5
	9	Terminal Panel (G)	ANC2476	Not used
	9	Terminal Panel (C)	Not used	ANC2477
NSP	37	CCC S&E Label	Not used	DRW2310

7.4 FRONT PANEL SECTION


1
25
25
3
5
2
13
14
25
25
9
11
22
10
4
15
MAIN BLOCK
CN4204
7
8
16
A disassembly direction
of the door section
6
8
21
12
21
18
19
7
18
20
17

FRONT PANEL SECTION PARTS LIST

Mark	No.	Description	Part No.
	1	LED Assy	AWW1442
	2	KEY Assy	AWW1445
	3	20P Housing Wire (J112)	ADX3714
⚠	4	Ferrite Core (F1002)	ATX1069
	5	F Panel Assy (G)	AMB3116
NSP	6	Damper Holder	ANG3198
	7	Magnet Holder Assy	AEC1077
	8	Damper	AXA1022
NSP	9	Shading Sheet	AMR3903
NSP	10	Front Panel (G)	AMB3111
NSP	11	Control Button	AAD4160
	12	Input Sheet (G)	AAL3039
NSP	13	Front LED Lens L	AMR3841
NSP	14	Front LED Lens C	AMR3904
NSP	15	Front LED Lens R	AMR3905
	16	Screw	BPZ30P080FTB
	17	Door Panel Service Kit	GXX1283
	18	Door Catcher	• • • • •
	19	Door Base	• • • • •
	20	Door Panel	• • • • •
	21	Door Cushion	AED1337
	22	Ferrite Holder	AMR3925
	23	• • • • •	
	24	• • • • •	
	25	Screw	BPZ30P080FTB

When Replacing the F PANEL Assy (E)

When replacing the F PANEL Assy (E), discard the following parts of the new Assy kit for service and use the parts from the original door panel:

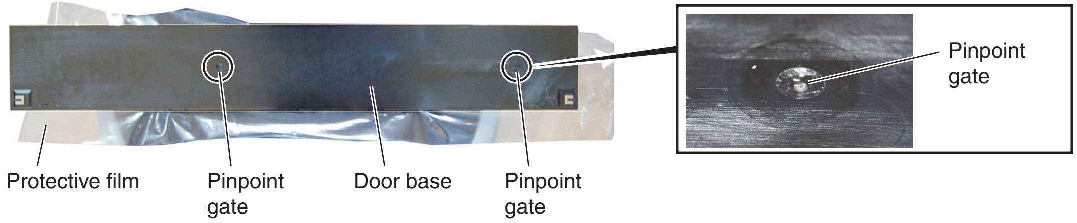
No.18	Door catcher
No.19	Door base
No.21	Door cushion

Reassembly Procedures for the Door Panel Service Kit

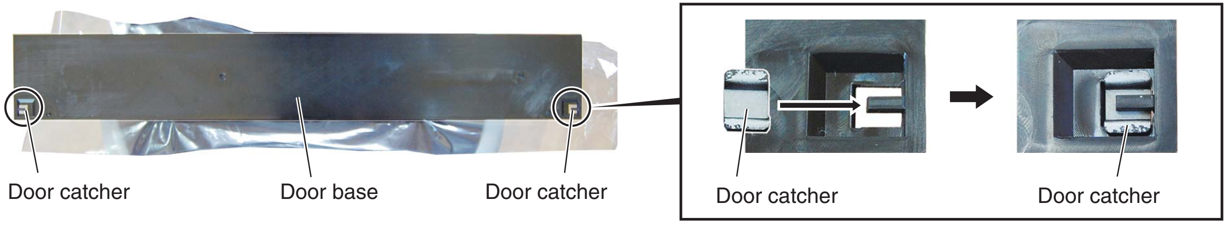
- Component parts of the GXX1283 Door Panel Service Kit

No.18	Door catcher (x2)
No.19	Door base (x1)
No.20	Door panel (x1)
No.21	Door cushion (x2)

① Check that two marks of pinpoint gates do not protrude from the surface of the door base to which the door panel is to be attached.
Do NOT peel off the protective film of the door base in this step.
Peel it off after all the reassembly procedures are completed.

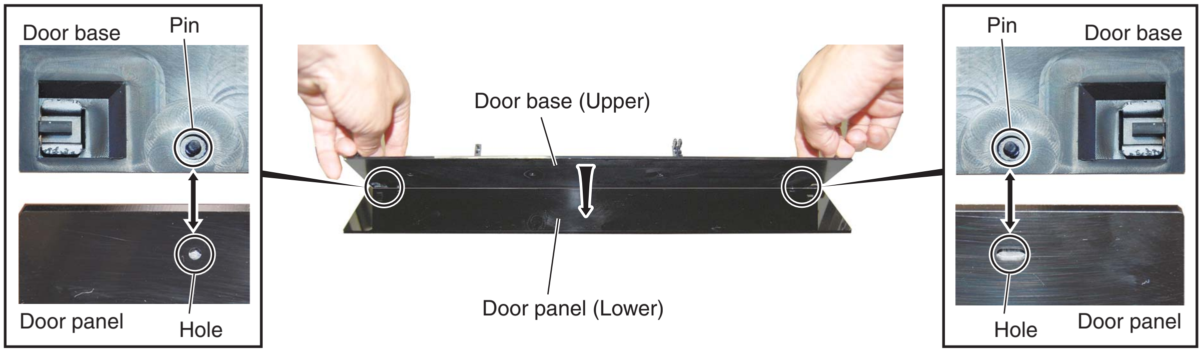

Pinpoint gate
Protective film
Pinpoint gate
Door base
Pinpoint gate

② Attach the two door catchers.

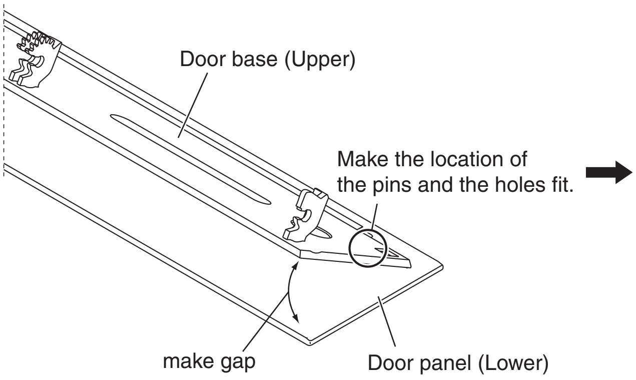

Door catcher
Door base
Door catcher
Door catcher
Door catcher

③ Peel off the separator of double-back tape on the door panel.
Do NOT peel off the protective film on the exterior surface of the door panel in this step.
Peel it off after all the reassembly procedures are completed.

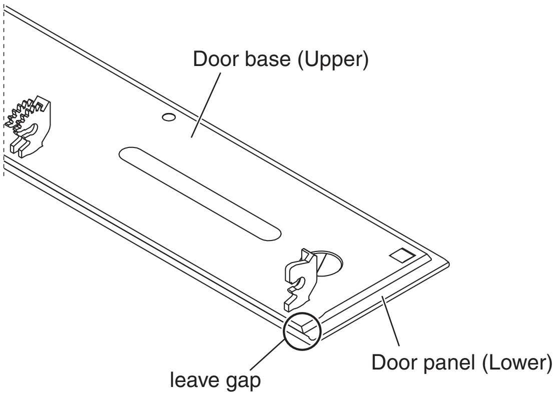
④ Align the two positioning pins of the door base with the holes in the door panel.
When positioning, leave gaps between the door panel and door base, as shown in the figure below:


Door base
Pin
Door panel
Hole
Door base (Upper)
Door panel (Lower)
Pin
Door base
Hole
Door panel

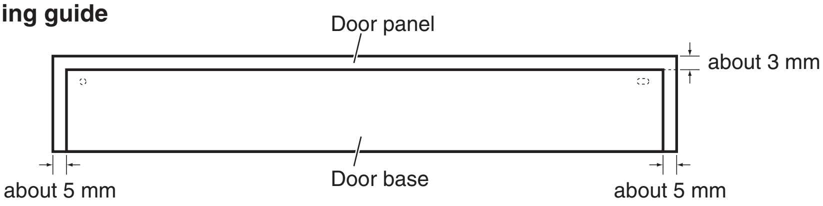
④-1


Door base (Upper)
Make the location of
the pins and the holes fit.
make gap
Door panel (Lower)

④-2


Door base (Upper)
leave gap
Door panel (Lower)

Positioning guide

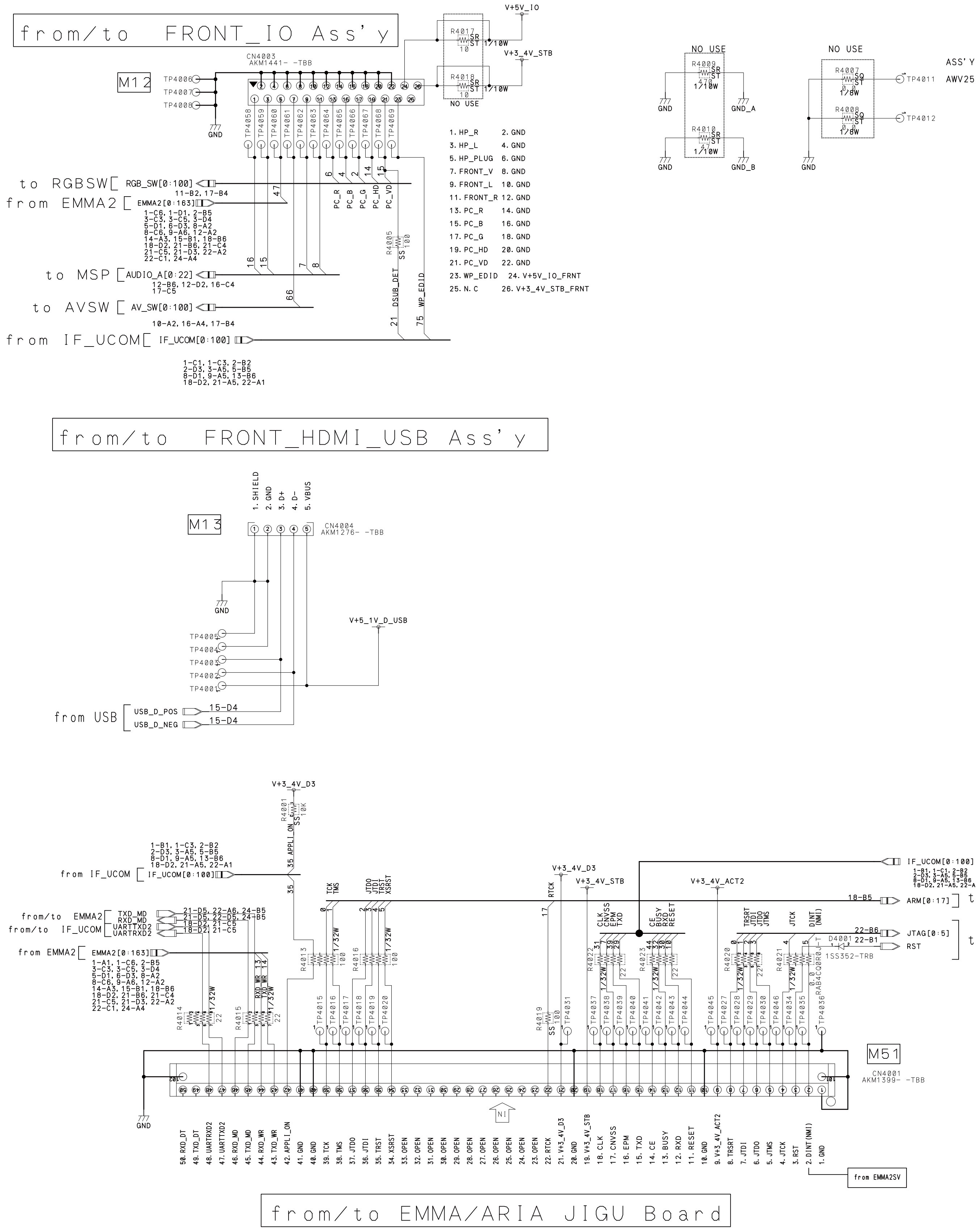

Door panel
about 3 mm
about 5 mm
Door base
about 5 mm

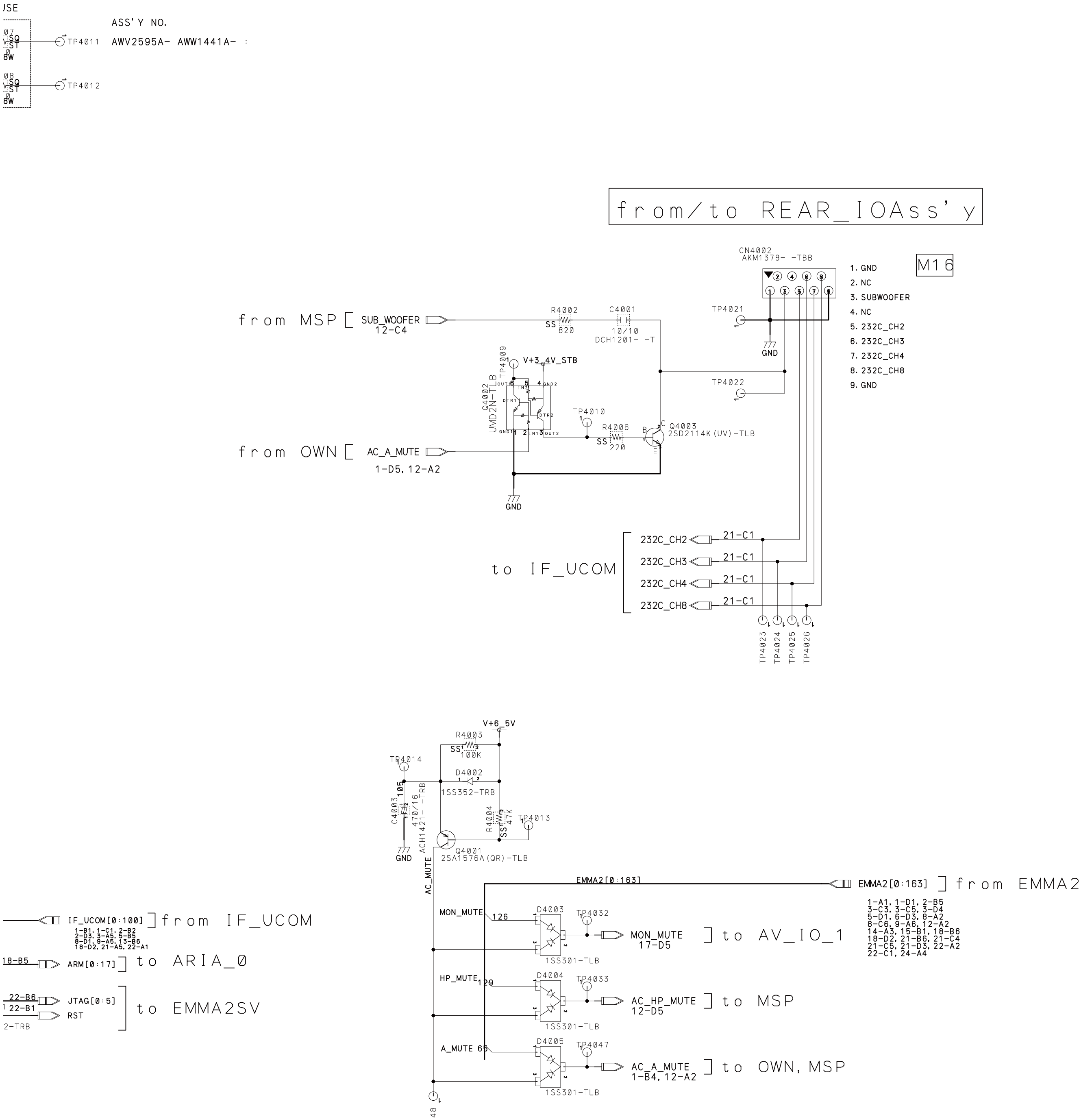
⑤ Stick the door base and door panel together, by pressing them all over.

⑥ Attach the two door cushions.

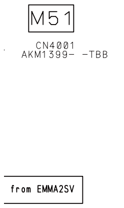
8. SCHEMATIC DIAGRAM

8.1 MAIN BLOCK ASSY (1/24) [BOARD_IF_0 BLOCK]


A
from/to FRONT_IO Ass'y
M12
CN4003
AKM1441- -TBB
TP4006
TP4007
TP4008
GND
TP4058 TP4059 TP4060 TP4061 TP4062 TP4063 TP4064 TP4065 TP4066 TP4067 TP4068 TP4069
V+5V_IO
R4017 SR ST 1/10W 10
V+3_4V_STB
R4018 SR ST 1/10W 10
NO USE
1. HP_R 2. GND
3. HP_L 4. GND
5. HP_PLUG 6. GND
7. FRONT_V 8. GND
9. FRONT_L 10. GND
11. FRONT_R 12. GND
13. PC_R 14. GND
15. PC_B 16. GND
17. PC_G 18. GND
19. PC_HD 20. GND
21. PC_VD 22. GND
23. WP_EDID 24. V+5V_IO_FRNT
25. N.C 26. V+3_4V_STB_FRNT
NO USE
R4009 SR ST 470 1/10W
GND GND_A
R4010 SR ST 47 1/10W
GND GND_B
NO USE
R4007 SQ ST 0.0 1/8W
R4008 SQ ST 0.0 1/8W
TP4011
TP4012
ASS'Y AWV25
GND
B
to RGBSW RGB_SW[0:100]
11-B2, 17-B4
from EMMA2 EMMA2[0:163]
1-C6, 1-D1, 2-B5
3-C3, 3-C5, 3-D4
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
47
6 4 2 14 15
PC_R PC_B PC_G PC_HD PC_VD
R4005 SS 100
to MSP AUDIO_A[0:22]
12-B6, 12-D2, 16-C4
17-C5
16 15 7 8
to AVSW AV_SW[0:100]
10-A2, 16-A4, 17-B4
66
21 DSUB_DET
75 WP_EDID
from IF_UCOM IF_UCOM[0:100]
1-C1, 1-C3, 2-B2
2-D3, 3-A5, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
C
from/to FRONT_HDMI_USB Ass'y
1. SHIELD
2. GND
3. D+
4. D-
5. VBUS
M13
CN4004
AKM1276- -TBB
GND
V+5_1V_D_USB
TP4005
TP4004
TP4003
TP4002
TP4001
D
from USB USB_D_POS 15-D4
USB_D_NEG 15-D4
V+3_4V_D3
R4001 SS 10K
35 APPLI_ON
1-B1, 1-C3, 2-B2
2-D3, 3-A5, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
from IF_UCOM IF_UCOM[0:100]
35
from/to EMMA2 TXD_MD RXD_MD
from/to IF_UCOM UARTTXD2 UARTRXD2
21-D5, 22-A6, 24-B5
21-D5, 22-D5, 24-B5
18-D2, 21-C5
18-D2, 21-C5
from EMMA2 EMMA2[0:163]
1-A1, 1-C6, 2-B5
3-C3, 3-C5, 3-D4
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
R4014 1/32W 22
R4015 RXD_WR TXD_WR 13 14 1/32W 22
TCK TMS 0 1
R4013 1/32W 100
JTDO JTDI TRST XSRST 2 3 4 5
R4016 1/32W 100
RTCK 17
R4019 SS 100
V+3_4V_D3
V+3_4V_STB
CLK CNVSS EPM TXD 31 39 29
R4022 1/32W 22
CE BUSY RXD RESET 44 30 10
R4023 1/32W 22
V+3_4V_ACT2
TRSRT JTDI JTDO JTMS 0 1 2 3
R4020 1/32W 22
JTCK DINT (NMI) 4 5
R4021 1/32W
D4001 1SS352-TRB
RAB4CQ0R0J-T 0.0
IF_UCOM[0:100]
1-B1, 1-C1, 2-B2
2-D3, 3-A5, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A
18-B5 ARM[0:17]
22-B6 JTAG[0:5]
22-B1 RST
t
TP4015 TP4016 TP4017 TP4018 TP4019 TP4020
TP4031
TP4037 TP4038 TP4039 TP4040 TP4041 TP4042 TP4043 TP4044
TP4045 TP4027 TP4028 TP4029 TP4030 TP4046 TP4034 TP4035 TP4036
E
M51
CN4001
AKM1399- -TBB
GND
N1
50. RXD_DT
49. TXD_DT
48. UARTRXD2
47. UARTTXD2
46. RXD_MD
45. TXD_MD
44. RXD_WR
43. TXD_WR
42. APPLI_ON
41. GND
40. GND
39. TCK
38. TMS
37. JTDO
36. JTDI
35. TRST
34. XSRST
33. OPEN
32. OPEN
31. OPEN
30. OPEN
29. OPEN
28. OPEN
27. OPEN
26. OPEN
25. OPEN
24. OPEN
23. OPEN
22. RTCK
21. V+3_4V_D3
20. GND
19. V+3_4V_STB
18. CLK
17. CNVSS
16. EPM
15. TXD
14. CE
13. BUSY
12. RXD
11. RESET
10. GND
9. V+3_4V_ACT2
8. TRSRT
7. JTDI
6. JTDO
5. JTMS
4. JTCK
3. RST
2. DINT(NMI)
1. GND
from EMMA2SV
F
from/to EMMA/ARIA JIGU Board



ASS'Y NO.
AWV2595A- AWW1441A- :
TP4011
TP4012
from/to REAR_IOAss'y
CN4002
AKM1378- -TBB
M16
1. GND
2. NC
3. SUBWOOFER
4. NC
5. 232C_CH2
6. 232C_CH3
7. 232C_CH4
8. 232C_CH8
9. GND
from MSP
SUB_WOOFER
12-C4
R4002
SS 820
C4001
10/10
DCH1201- -T
TP4021
GND
V+3_4V_STB
TP4009
Q4002
UMD2N-TLB
TP4022
TP4010
R4006
SS 220
Q4003
2SD2114K(UV)-TLB
from OWN
AC_A_MUTE
1-D5, 12-A2
GND
to IF_UCOM
232C_CH2
232C_CH3
232C_CH4
232C_CH8
21-C1
TP4023
TP4024
TP4025
TP4026
V+6_5V
R4003
SS 100K
TP4014
D4002
1SS352-TRB
C4003
470/16
ACH1421- -TRB
R4004
SS 47K
TP4013
GND
Q4001
2SA1576A(QR)-TLB
AC_MUTE
EMMA2[0:163]
EMMA2[0:163]
from EMMA2
1-A1, 1-D1, 2-B5
3-C3, 3-C5, 3-D4
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
IF_UCOM[0:100]
from IF_UCOM
1-B1, 1-C1, 2-B2
2-D3, 3-A5, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
ARM[0:17]
to ARIA_0
JTAG[0:5]
RST
to EMMA2SV
MON_MUTE
126
D4003
TP4032
MON_MUTE
17-D5
to AV_IO_1
1SS301-TLB
HP_MUTE
129
D4004
TP4033
AC_HP_MUTE
12-D5
to MSP
1SS301-TLB
A_MUTE
65
D4005
TP4047
AC_A_MUTE
1-B4, 12-A2
to OWN, MSP
1SS301-TLB
TP4048



M51
CN4001
AKM1399- -TBB
from EMMA2SV

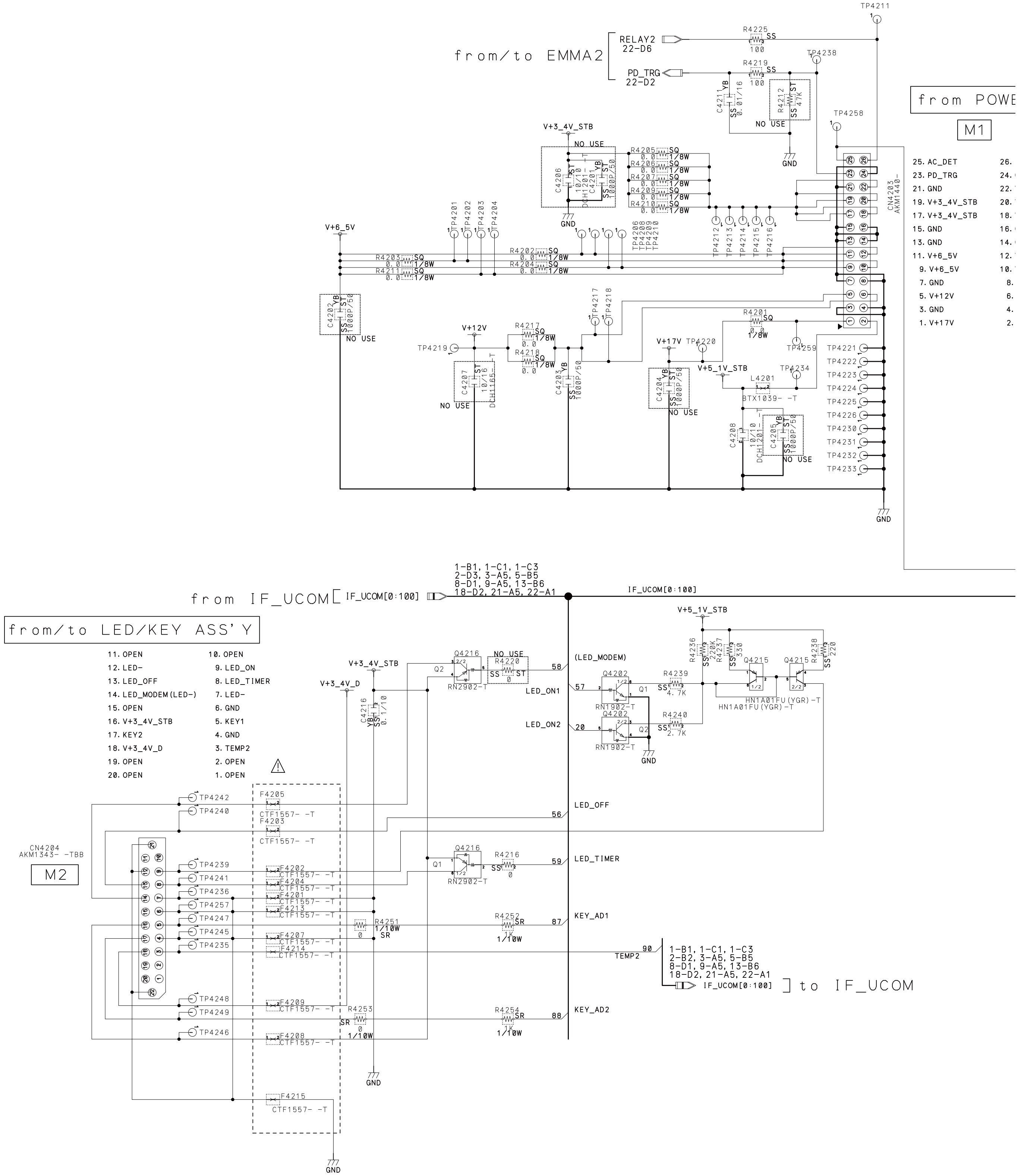
MODEL

ITEM	USED	VACANT
R	4001-4010, 4013-4023	4007-4010, 4017, 4018
C	4001, 4003	
Q	4001-4003	
D	4001-4005	
CN	4001-4004	

MAIN ASSY (MR_IBD) (01/25)
BOARD_IF_0 BLOCK

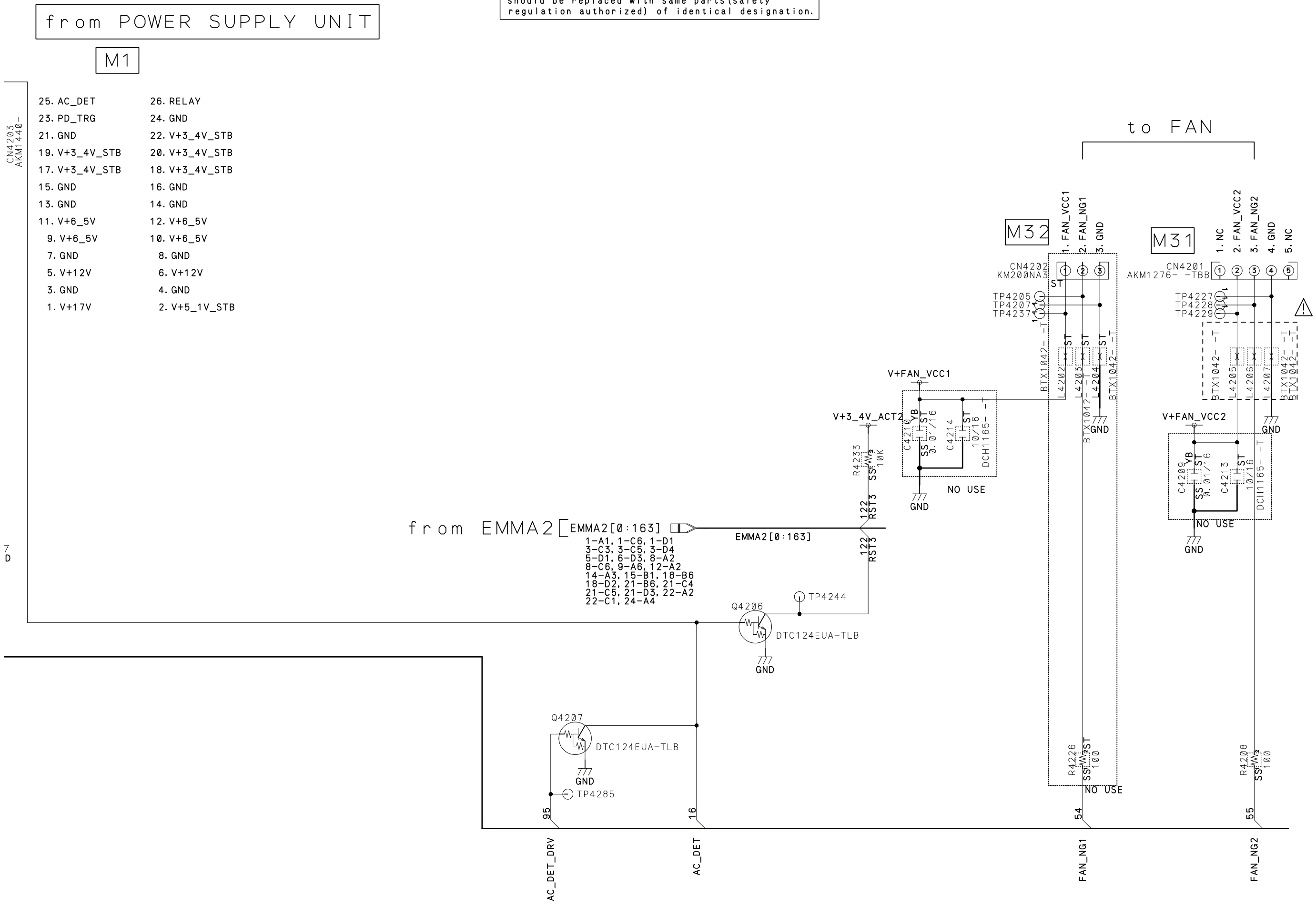
AWV2595- : AWW1431

8.2 MAIN BLOCK ASSY (2/24) [BOARD_IF_1 BLOCK]



from/to EMMA2
RELAY2 22-D6
PD_TRG 22-D2
TP4211
R4225 SS 100
R4219 SS 100
TP4238
C4211 YB SS 0.01/16
R4212 ST SS 47K
NO USE
GND
TP4258
from POWE
M1
CN4203 AKM1440-
25. AC_DET
23. PD_TRG
21. GND
19. V+3_4V_STB
17. V+3_4V_STB
15. GND
13. GND
11. V+6_5V
9. V+6_5V
7. GND
5. V+12V
3. GND
1. V+17V
V+3_4V_STB
NO USE
C4206 ST 10/10 DCH1201-T
C4201 YB SS 1000P/50
R4205 SQ 0.0 1/8W
R4206 SQ 0.0 1/8W
R4207 SQ 0.0 1/8W
R4209 SQ 0.0 1/8W
R4210 SQ 0.0 1/8W
TP4206 TP4208 TP4209 TP4210
TP4212 TP4213 TP4214 TP4215 TP4216
TP4201 TP4202 TP4203 TP4204
V+6_5V
R4203 SQ 0.0 1/8W
R4211 SQ 0.0 1/8W
R4202 SQ 0.0 1/8W
R4204 SQ 0.0 1/8W
C4202 YB ST SS 1000P/50
NO USE
V+12V
TP4219
R4217 SQ 0.0 1/8W
R4218 SQ 0.0 1/8W
C4207 ST 10/16 DCH1165-T
NO USE
C4203 YB SS 1000P/50
TP4217 TP4218
V+17V
TP4220
C4204 YB SS 1000P/50
NO USE
R4201 SQ 0.0 1/8W
V+5_1V_STB
TP4234
TP4259
L4201 BTX1039-T
C4208 10/10 DCH1201-T
C4205 YB SS 1000P/50
NO USE
TP4221 TP4222 TP4223 TP4224 TP4225 TP4226 TP4230 TP4231 TP4232 TP4233
GND
1-B1, 1-C1, 1-C3
2-D3, 3-A5, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
from IF_UCOM
IF_UCOM[0:100]
from/to LED/KEY ASS'Y
11. OPEN
12. LED-
13. LED_OFF
14. LED_MODEM(LED-)
15. OPEN
16. V+3_4V_STB
17. KEY2
18. V+3_4V_D
19. OPEN
20. OPEN
10. OPEN
9. LED_ON
8. LED_TIMER
7. LED-
6. GND
5. KEY1
4. GND
3. TEMP2
2. OPEN
1. OPEN
V+3_4V_STB
V+3_4V_D
C4216 YB SS 0.1/10
Q4216 Q2 RN2902-T
R4220 NO USE SS ST 0
58 (LED_MODEM)
57 LED_ON1
20 LED_ON2
V+5_1V_STB
Q4202 Q1 RN1902-T
Q4202 Q2 RN1902-T
R4239 SS 4.7K
R4240 SS 2.7K
R4236 SS 220K
R4237 SS 330
Q4215 HN1A01FU(YGR)-T
R4238 SS 220
GND
CN4204 AKM1343-TBB
M2
TP4242 TP4240 TP4239 TP4241 TP4236 TP4257 TP4247 TP4245 TP4235 TP4248 TP4249 TP4246
F4205 CTF1557-T
F4203 CTF1557-T
F4202 CTF1557-T
F4204 CTF1557-T
F4201 CTF1557-T
F4213 CTF1557-T
F4207 CTF1557-T
F4214 CTF1557-T
F4209 CTF1557-T
F4208 CTF1557-T
F4215 CTF1557-T
56 LED_OFF
Q4216 Q1 RN2902-T
R4216 SS 0
59 LED_TIMER
R4251 1/10W SR 0
R4252 SR 1K 1/10W
87 KEY_AD1
90 TEMP2
1-B1, 1-C1, 1-C3
2-B2, 3-A5, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
IF_UCOM[0:100]
to IF_UCOM
R4253 SR 0 1/10W
R4254 SR 1K 1/10W
88 KEY_AD2
GND

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


from POWER SUPPLY UNIT
M1
CN4203
AKM1440-
25. AC_DET
26. RELAY
23. PD_TRG
24. GND
21. GND
22. V+3_4V_STB
19. V+3_4V_STB
20. V+3_4V_STB
17. V+3_4V_STB
18. V+3_4V_STB
15. GND
16. GND
13. GND
14. GND
11. V+6_5V
12. V+6_5V
9. V+6_5V
10. V+6_5V
7. GND
8. GND
5. V+12V
6. V+12V
3. GND
4. GND
1. V+17V
2. V+5_1V_STB
to FAN
M32
1. FAN_VCC1
2. FAN_NG1
3. GND
CN4202
KM200NA3
ST
TP4205
TP4207
TP4237
BTX1042- -T
L4202
L4203
L4204
ST
BTX1042- -T
GND
M31
1. NC
2. FAN_VCC2
3. FAN_NG2
4. GND
5. NC
CN4201
AKM1276- -TBB
TP4227
TP4228
TP4229
⚠
BTX1042- -T
L4205
L4206
L4207
BTX1042- -T
V+FAN_VCC1
V+3_4V_ACT2
C4210
YB
ST
SS
0.01/16
C4214
10/16
DCH1165- -T
R4233
SS
1/16
10K
NO USE
GND
V+FAN_VCC2
C4209
C4213
NO USE
from EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
3-C3, 3-C5, 3-D4
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
EMMA2[0:163]
122
RST3
TP4244
Q4206
DTC124EUA-TLB
GND
Q4207
DTC124EUA-TLB
GND
TP4285
R4226
SS
1/16
100
NO USE
R4208
SS
1/16
100
95
16
54
55
AC_DET_DRV
AC_DET
FAN_NG1
FAN_NG2

:OM

MODEL

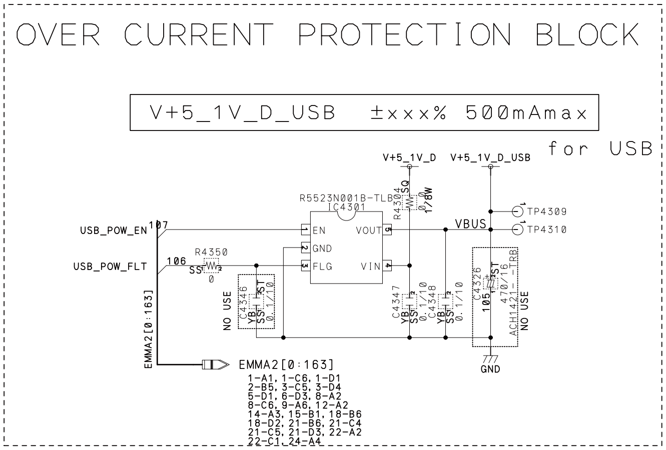
ITEM	USED	VACANT
R	4201-4212, 4216-4220, 4225, 4226, 4233, 4236-4240, 4251-4254	4212, 4220, 4226
C	4201-4211, 4213, 4214, 4216	4201, 4202, 4204-4207, 4209, 4210, 4213, 4214
Q	4202, 4206, 4207, 4215, 4216	
IC		
F	4201-4205, 4207-4209, 4213-4215	
L	4201-4207	4202-4204
CN	4201-4204	4202

MAIN ASSY (MR_IBD) (02/25)
BOARD_IF_1 BLOCK

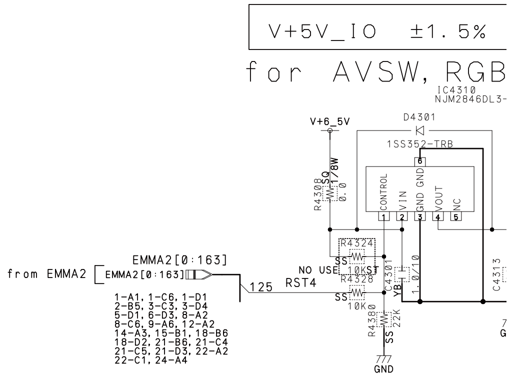
AWV2595- : AWW1431

8.3 MAIN BLOCK ASSY (3/24) [POWER_0 BLOCK]

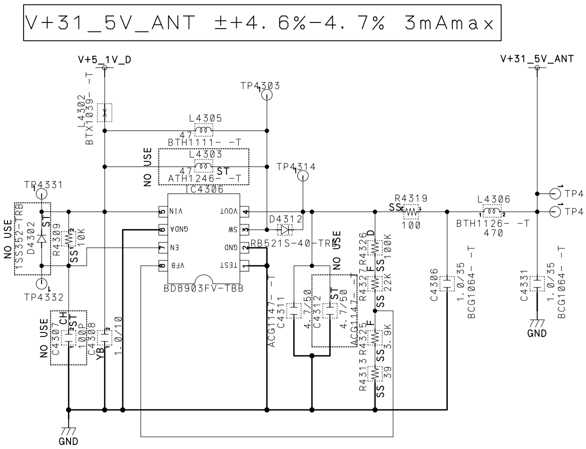
The △
shoul
regul



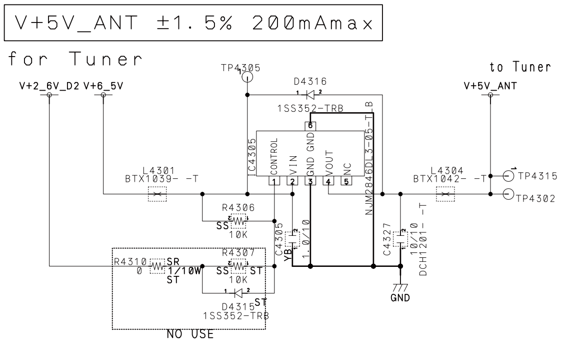
OVER CURRENT PROTECTION BLOCK
V+5_1V_D_USB ±xxx% 500mAmax
for USB
V+5_1V_D
V+5_1V_D_USB
R5523N001B-TLB
IC4301
EN
GND
FLG
VOUT
VIN
VBUS
TP4309
TP4310
USB_POW_EN
USB_POW_FLT
107
106
R4350
SS
0
R4304
SQ
1/8W
0.0
C4346
YB
SS
ST
0.1/10
NO USE
C4347
C4348
0.1/10
C4326
105
470/16
ACH1421-TRB
NO USE
GND
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C5, 3-D4
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4



V+5V_IO ±1.5%
for AVSW, RGB
IC4310
NJM2846DL3-
V+6_5V
D4301
1SS352-TRB
R4308
SQ
1/8W
0.0
CONTROL
VIN
GND GND
VOUT
NC
from EMMA2
EMMA2[0:163]
125
RST4
R4324
R4328
10K
NO USE
SS
ST
C4301
1.0/10
YB
R4380
22K
C4313
GND
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-D4
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4



V+31_5V_ANT ±+4.6%-4.7% 3mAmax
V+5_1V_D
V+31_5V_ANT
L4302
BTX1039-T
TP4303
L4305
47
BTH1111-T
L4303
47
ATH1246-T
ST
NO USE
TP4314
IC4306
VIN
GNDA
EN
VFB
VOUT
SW
GND
TEST
BD8903FV-TBB
D4312
RB521S-40-TRB
R4319
SS
100
L4306
BTH1126-T
470
TP4333
TP4334
TP4331
TP4332
NO USE
1SS352-TRB
D4302
ST
R4309
SS
10K
C4307
CH
100P
ST
NO USE
C4308
YB
1.0/10
C4311
ACG1147-T
C4312
4.7/50
ST
NO USE
R4326
SS
100K
R4321
22K
R4313
R4325
39
3.9K
C4306
1.0/35
BCG1064-T
C4331
1.0/35
BCG1064-T
GND

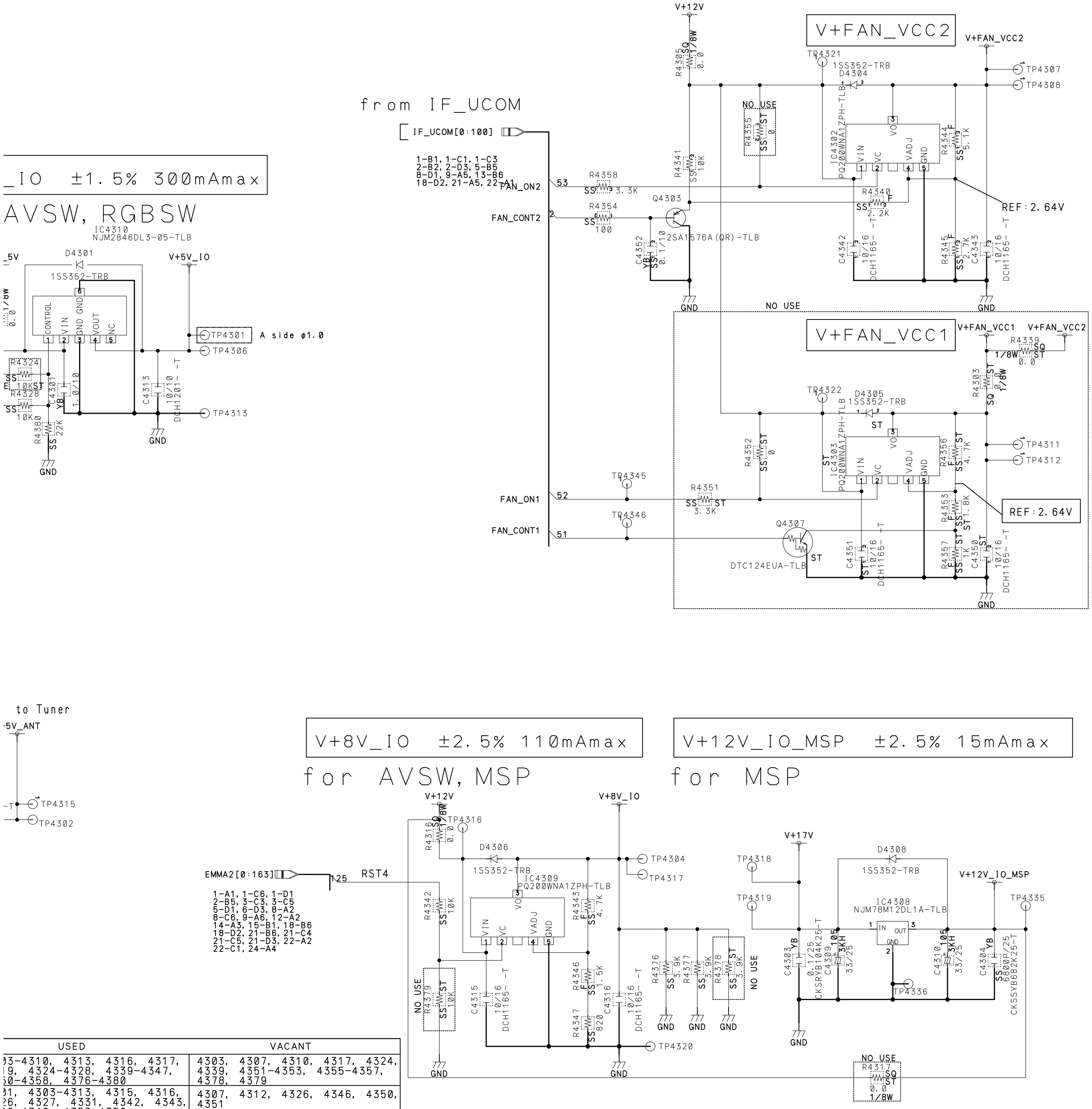


V+5V_ANT ±1.5% 200mAmax
for Tuner
to Tuner
V+2_6V_D2
V+6_5V
V+5V_ANT
TP4305
D4316
1SS352-TRB
C4305
CONTROL
VIN
GND GND
VOUT
NC
NJM2846DL3-05-TLB
L4301
BTX1039-T
L4304
BTX1042-T
TP4315
TP4302
R4306
SS
10K
R4307
10K
SS
ST
R4310
SR
0
1/10W
ST
D4315
1SS352-TRB
ST
C4303
YB
1.0/10
C4327
10/10
DCH1201-T
GND
NO USE

MODEL

ITEM	USED
R	4303-4310, 4313, 4316, 4 4319, 4324-4328, 4339-43 4350-4358, 4376-4380
C	4301, 4303-4313, 4315, 4 4326, 4327, 4331, 4342, 4346-4348, 4350-4352
Q	4303, 4307
IC	4301-4303, 4305, 4306, 4308-4310
L	4301-4306
D	4301, 4302, 4304-4306, 4 4312, 4315, 4316
CN	4201-4204

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

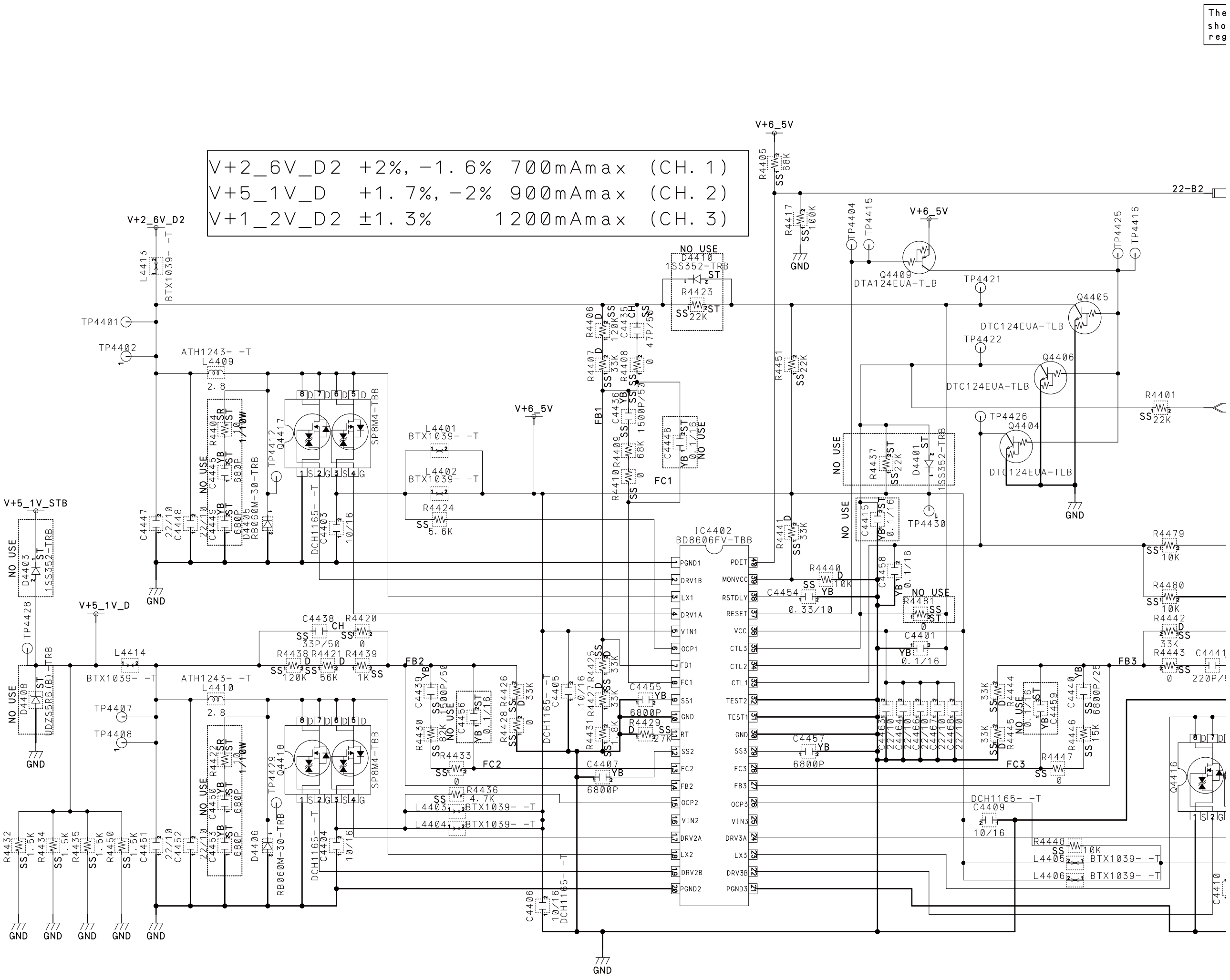

_IO ±1.5% 300mAmax
AVSW, RGBSW
IC4310
NJM2846DL3-05-TLB
D4301
1SS352-TRB
V+5V_IO
CONTROL
VIN
GND GND
VOUT
NC
TP4301
A side φ1.0
TP4306
TP4313
C4313
10/10
DCH1201-T
R4324
R4326
10K0
R4380
22K
C4301
1.0/10
GND
from IF_UCOM
IF_UCOM[0:100]
1-B1, 1-C1, 1-C3
2-B2, 2-D3, 5-B5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
FAN_ON2
FAN_CONT2
FAN_ON1
FAN_CONT1
53
2
52
51
V+12V
R4305
1/8W
0.0
V+FAN_VCC2
TP4321
1SS352-TRB
D4304
TP4307
TP4308
NO USE
R4355
0
IC4302
PQ200WNA1ZPH-TLB
VIN
VC
VO
VADJ
GND
R4344
5.1K
R4341
10K
R4358
3.3K
R4354
100
Q4303
2SA1576A(QR)-TLB
R4340
2.2K
REF:2.64V
C4352
0.1/10
C4342
10/16
DCH1165-T
R4345
2.7K
C4343
10/16
DCH1165-T
GND
NO USE
V+FAN_VCC1
V+FAN_VCC1
V+FAN_VCC2
R4339
1/8W
0.0
R4303
0.0
1/8W
TP4322
D4305
1SS352-TRB
IC4303
PQ200WNA1ZPH-TLB
R4352
0
R4356
4.7K
TP4311
TP4312
TP4345
R4351
3.3K
TP4346
Q4307
DTC124EUA-TLB
REF:2.64V
C4351
10/16
DCH1165-T
R4353
1.8K
R4357
1K
C4350
10/16
DCH1165-T
GND
to Tuner
+5V_ANT
TP4315
TP4302
V+8V_IO ±2.5% 110mAmax
for AVSW, MSP
V+12V_IO_MSP ±2.5% 15mAmax
for MSP
V+12V
V+8V_IO
R4316
1/8W
0.0
TP4316
D4306
1SS352-TRB
TP4304
TP4317
EMMA2[0:163]
125
RST4
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
5-D1, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
IC4309
PQ200WNA1ZPH-TLB
R4342
10K
R4343
4.7K
R4346
1.5K
R4347
820
C4315
10/16
DCH1165-T
C4316
10/16
DCH1165-T
R4376
3.9K
R4377
3.9K
R4378
3.9K
NO USE
NO USE
R4379
10K
GND
TP4320
V+17V
TP4318
TP4319
D4308
1SS352-TRB
IC4308
NJM78M12DL1A-TLB
IN
OUT
GND
V+12V_IO_MSP
TP4335
C4303
0.1/25
CKSRYB104K25-T
C4309
33/25
C4310
33/25
C4304
6800P/25
CKSSYB682K25-T
TP4336
NO USE
R4317
0.0
1/8W
GND

USED	VACANT
3-4310, 4313, 4316, 4317, 9, 4324-4328, 4339-4347, 0-4358, 4376-4380	4303, 4307, 4310, 4317, 4324, 4339, 4351-4353, 4355-4357, 4378, 4379
1, 4303-4313, 4315, 4316, 6, 4327, 4331, 4342, 4343, 6-4348, 4350-4352	4307, 4312, 4326, 4346, 4350, 4351
3, 4307	4307
1-4303, 4305, 4306, 8-4310	4303
1-4306	4303
1, 4302, 4304-4306, 4308, 2, 4315, 4316	4302, 4305, 4315
1-4204	

MAIN ASSY (MR_IBD) (03/25)
POWER_0 BLOCK

AWV2595- ; AWW1431

8.4 MAIN BLOCK ASSY (4/24) [POWER_1 BLOCK]

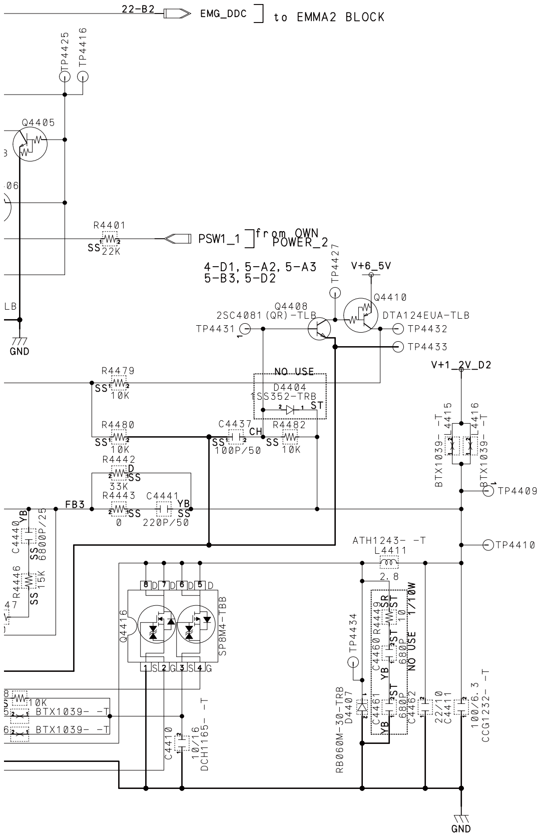

V+2_6V_D2 +2%, -1.6% 700mAmax (CH.1)
V+5_1V_D +1.7%, -2% 900mAmax (CH.2)
V+1_2V_D2 ±1.3% 1200mAmax (CH.3)

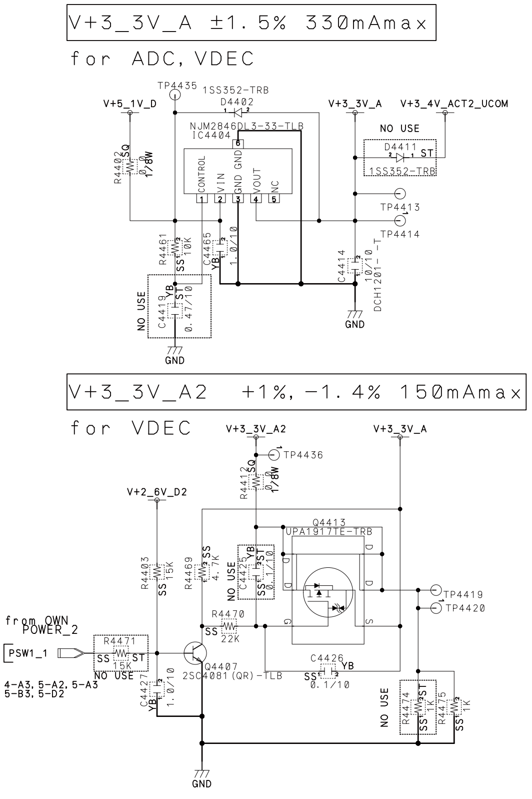
The
sho
reg
V+6_5V
R4405
68K
22-B2
V+2_6V_D2
L4413
BTX1039- -T
TP4401
TP4402
ATH1243- -T
L4409
2.8
NO USE
D4410
1SS352-TRB
R4423
22K
R4417
100K
GND
TP4404
TP4415
Q4409
DTA124EUA-TLB
TP4425
TP4416
TP4421
Q4405
DTC124EUA-TLB
TP4422
Q4406
DTC124EUA-TLB
R4401
22K
TP4426
Q4404
DTC124EUA-TLB
R4406
R4407
R4408
120K
33K
C4435
47P/50
C4436
1500P/50
R4409
R4410
68K
FB1
C4446
0.1/16
FC1
R4451
22K
R4437
22K
D4401
1SS352-TRB
Q4417
SP8M4-TBB
TP4412
RB060M-30-TRB
D4405
DCH1165- -T
C4403
10/16
L4401
BTX1039- -T
L4402
BTX1039- -T
R4424
5.6K
V+5_1V_STB
D4403
1SS352-TRB
C4447
C4448
22/10
C4449
680P
R4441
33K
C4415
0.1/16
TP4430
IC4402
BD8606FV-TBB
PGND1
DRV1B
LX1
DRV1A
VIN1
OCP1
FB1
FC1
SS1
GND
RT
SS2
FC2
FB2
OCP2
VIN2
DRV2A
LX2
DRV2B
PGND2
PDET
MONVCC
RSTDLY
RESET
VCC
CTL3
CTL2
CTL1
TEST2
TEST1
GND
SS3
FC3
FB3
OCP3
VIN3
DRV3A
LX3
DRV3B
PGND3
R4440
10K
C4454
0.33/10
C4458
0.1/16
R4481
C4401
0.1/16
R4479
10K
R4480
10K
R4442
33K
R4443
0
C4441
220P/5
FB3
TP4428
V+5_1V_D
L4414
BTX1039- -T
D4408
UDZS5R6(B)-TRB
TP4407
TP4408
ATH1243- -T
L4410
2.8
C4438
33P/50
R4420
0
R4438
120K
R4421
56K
R4439
1K
FB2
C4439
C4456
0.1/16
R4426
R4425
33K
C4455
6800P
R4429
27K
C4405
10/16
R4428
R4430
R4433
0
FC2
R4436
4.7K
L4403
BTX1039- -T
L4404
BTX1039- -T
C4407
6800P
C4406
10/16
DCH1165- -T
C4457
6800P
C4460
C4461
C4462
C4463
C4464
C4465
22/10
R4444
R4445
33K
C4459
0.1/16
C4440
6800P/25
R4446
15K
R4447
0
FC3
DCH1165- -T
C4409
10/16
R4448
10K
L4405
BTX1039- -T
L4406
BTX1039- -T
Q4416
C4410
Q4418
SP8M4-TBB
TP4429
RB060M-30-TRB
D4406
C4404
10/16
C4450
680P
C4451
C4452
22/10
R4432
R4434
R4435
R4450
1.5K
GND
NO USE
SS
ST
YB
CH
D
1/10W

MODEL

ITEM	USED
R	4401-4410, 4412, 4417, 4 4451, 4461, 4469-4471, 4 4475, 4479-4482
C	4401, 4403-4407, 4409-44 4414, 4415, 4419, 4425-4 4435-4441, 4445-4468
Q	4404-4410, 4413, 4416-44
IC	4402, 4404
L	4401-4406, 4409-4411, 44 4416
D	4401-4408, 4410, 4411
CN	4201-4204

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


22-B2
EMG_DDC
to EMMA2 BLOCK
TP4425
TP4416
Q4405
R4401
SS 22K
PSW1_1
from OWN POWER_2
4-D1, 5-A2, 5-A3
5-B3, 5-D2
TP4427
V+6_5V
Q4408
2SC4081(QR)-TLB
Q4410
DTA124EUA-TLB
TP4431
TP4432
TP4433
GND
V+1_2V_D2
R4479
SS 10K
NO USE
D4404
1SS352-TRB
ST
R4480
SS 10K
C4437
CH
SS 100P/50
R4482
SS 10K
R4442
33K
D
SS
R4443
0
SS
C4441
220P/50
YB
SS
FB3
C4440
YB
SS
0800P/25
R4446
15K
BTX1039- -T
L4415
L4416
TP4409
TP4410
ATH1243- -T
L4411
2.8
Q4416
SP8M4-TBB
TP4434
R4449
SS ST 10
1/10W
NO USE
C4460
YB
ST
680P
C4461
YB
SS
C4462
680P
22/10
C4411
100/6.3
CCG1232- -T
D4407
RB060M-30-TRB
10K
BTX1039- -T
BTX1039- -T
C4410
10/16
DCH1165- -T
GND

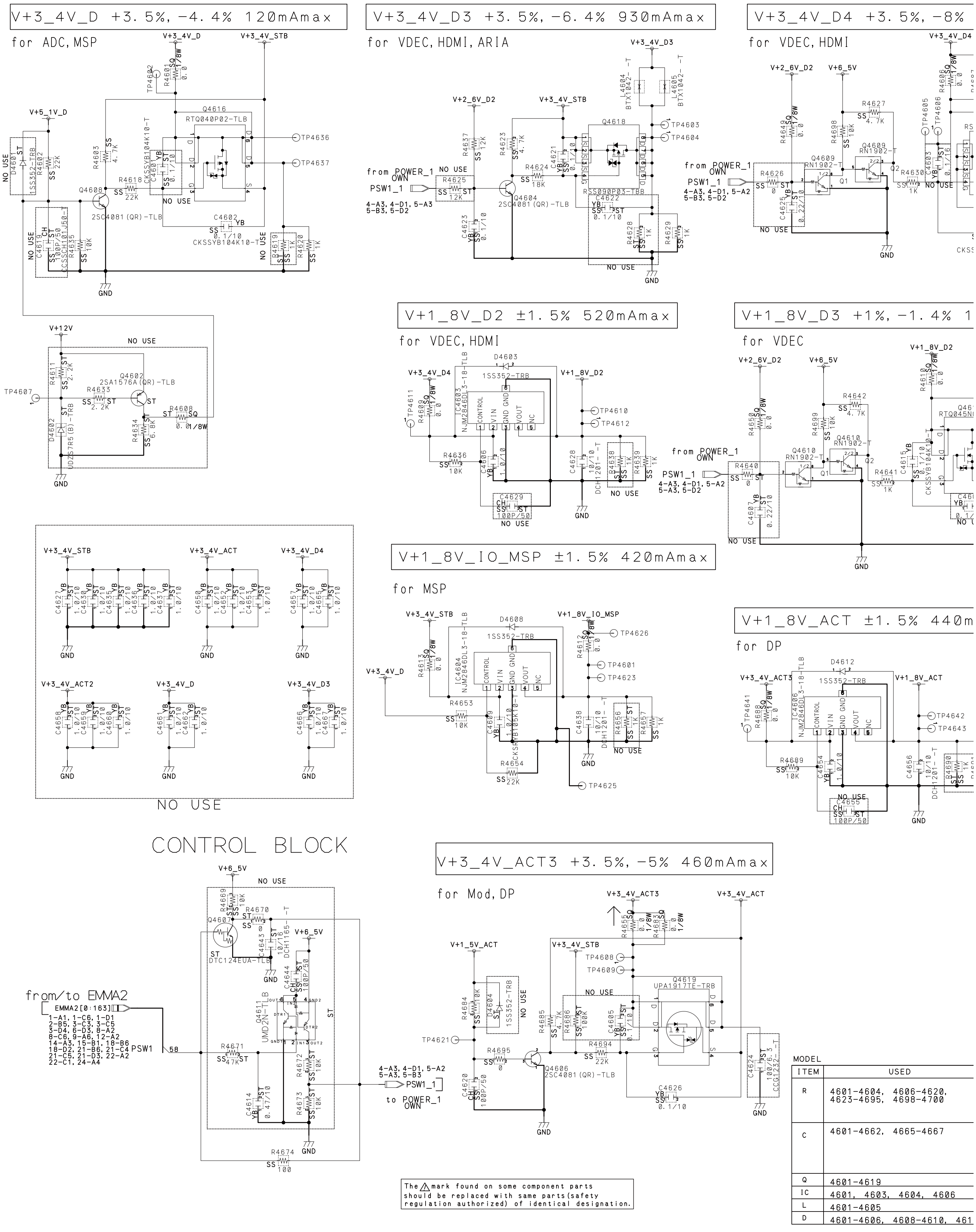

V+3_3V_A ±1.5% 330mAmax
for ADC, VDEC
V+5_1V_D
TP4435
1SS352-TRB
D4402
V+3_3V_A
V+3_4V_ACT2_UCOM
NJM2846DL3-33-TLB
IC4404
NO USE
D4411
ST
1SS352-TRB
R4402
SQ
0.0
1/8W
CONTROL
VIN
GND GND
VOUT
NC
TP4413
TP4414
R4461
SS
10K
C4465
YB
1.0/10
C4414
10/10
DCH1201- -T
NO USE
C4419
YB
ST
0.47/10
GND
GND
V+3_3V_A2 +1%, -1.4% 150mAmax
for VDEC
V+3_3V_A2
V+3_3V_A
TP4436
R4412
SQ
0.0
1/8W
V+2_6V_D2
Q4413
UPA1917TE-TRB
R4403
SS
15K
R4469
SS
4.7K
NO USE
C4425
YB
ST
0.1/10
TP4419
TP4420
R4470
SS
22K
from OWN POWER_2
PSW1_1
R4471
SS ST
15K
NO USE
4-A3, 5-A2, 5-A3
5-B3, 5-D2
Q4407
2SC4081(QR)-TLB
C4426
YB
SS
0.1/10
C4427
YB
1.0/10
NO USE
R4474
SS ST
1K
R4475
SS
1K
GND

USED	VACANT
1-4410, 4412, 4417, 4420- 1, 4461, 4469-4471, 4474, 5, 4479-4482	4404, 4422, 4423, 4437, 4449, 4471, 4474, 4481
1, 4403-4407, 4409-4411, 4, 4415, 4419, 4425-4427, 5-4441, 4445-4468	4415, 4419, 4425, 4445, 4446, 4449, 4450, 4453, 4456, 4459- 4461
4-4410, 4413, 4416-4418	
2, 4404	
1-4406, 4409-4411, 4413- 6	
1-4408, 4410, 4411	4401, 4403, 4404, 4408, 4410, 4411
1-4204	

MAIN ASSY (MR_IBD) (04/25)
POWER_1 BLOCK

AWV2595- ; AWW1431

8.5 MAIN BLOCK ASSY (5/24) [POWER_2 BLOCK]

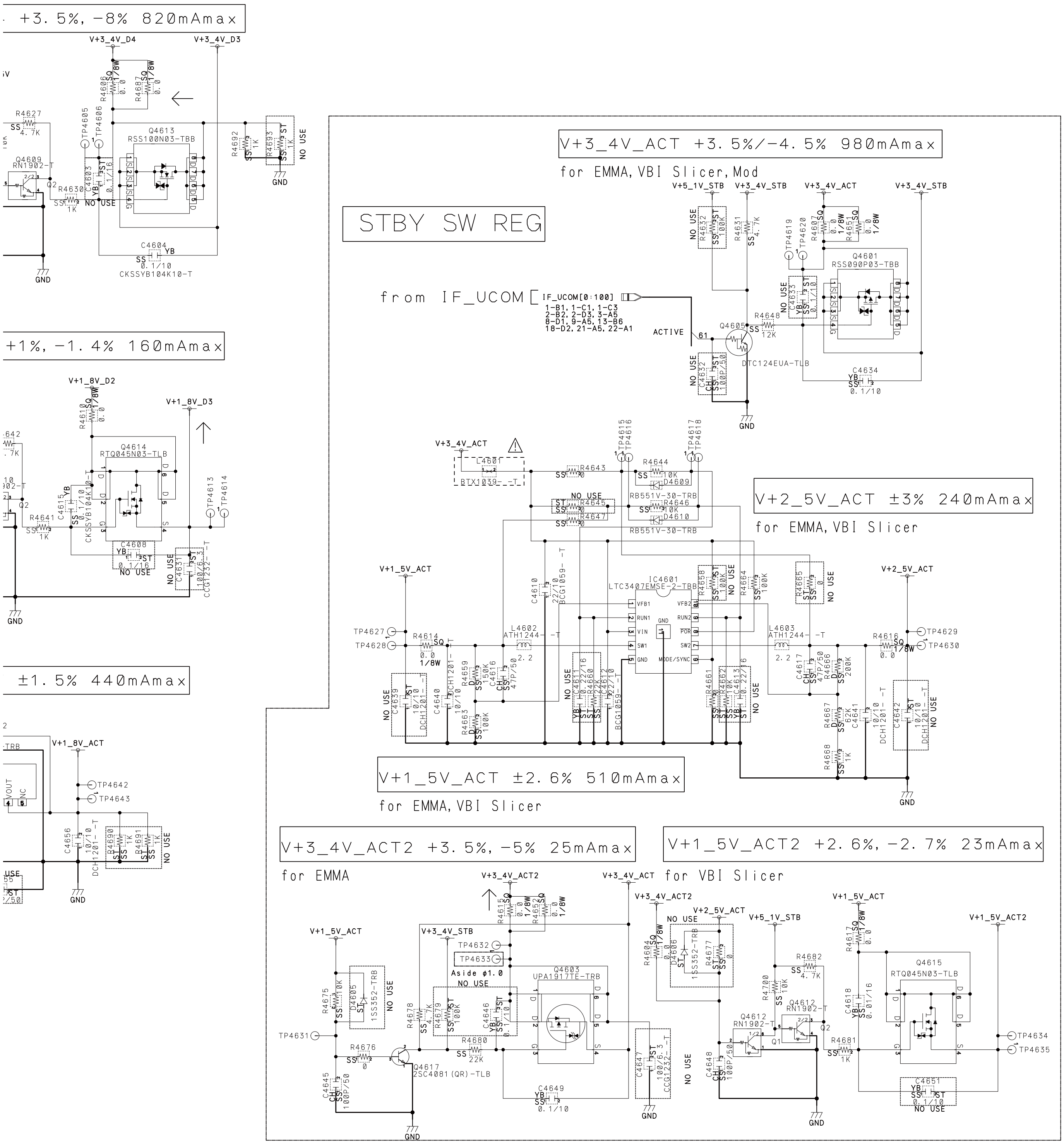


V+3_4V_D +3.5%, -4.4% 120mAmax
for ADC, MSP
V+3_4V_D3 +3.5%, -6.4% 930mAmax
for VDEC, HDMI, ARIA
V+3_4V_D4 +3.5%, -8%
for VDEC, HDMI
V+1_8V_D2 ±1.5% 520mAmax
for VDEC, HDMI
V+1_8V_D3 +1%, -1.4% 1
for VDEC
V+1_8V_IO_MSP ±1.5% 420mAmax
for MSP
V+1_8V_ACT ±1.5% 440m
for DP
V+3_4V_ACT3 +3.5%, -5% 460mAmax
for Mod, DP
CONTROL BLOCK
NO USE
from POWER_1 OWN
PSW1_1
to POWER_1 OWN
from/to EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 6-D3, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4 PSW1
21-C5, 21-D3, 22-A2
22-C1, 24-A4
Q4616 RTQ040P02-TLB
Q4618 RSS090P03-TBB
Q4619 UPA1917TE-TRB
Q4602 2SA1576A(QR)-TLB
Q4604 2SC4081(QR)-TLB
Q4606 2SC4081(QR)-TLB
Q4608 2SC4081(QR)-TLB
Q4609 RN1902-T
Q4610 RN1902-T
Q4607 DTC124EUA-TLB
Q4611 UMD2N-TLB
IC4603 NJM2846DL3-18-TLB
IC4604 NJM2846DL3-18-TLB
IC4606 NJM2846DL3-18-TLB
D4603 1SS352-TRB
D4608 1SS352-TRB
D4612 1SS352-TRB
D4604 1SS352-TRB
D4601 1SS352-TRB
D4602 UDZS7R5(B)-TRB
L4604 BTX1042-T
L4605 BTX1042-T
GND

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

MODEL

ITEM	USED
R	4601-4604, 4606-4620, 4623-4695, 4698-4700
C	4601-4662, 4665-4667
Q	4601-4619
IC	4601, 4603, 4604, 4606
L	4601-4605
D	4601-4606, 4608-4610, 461

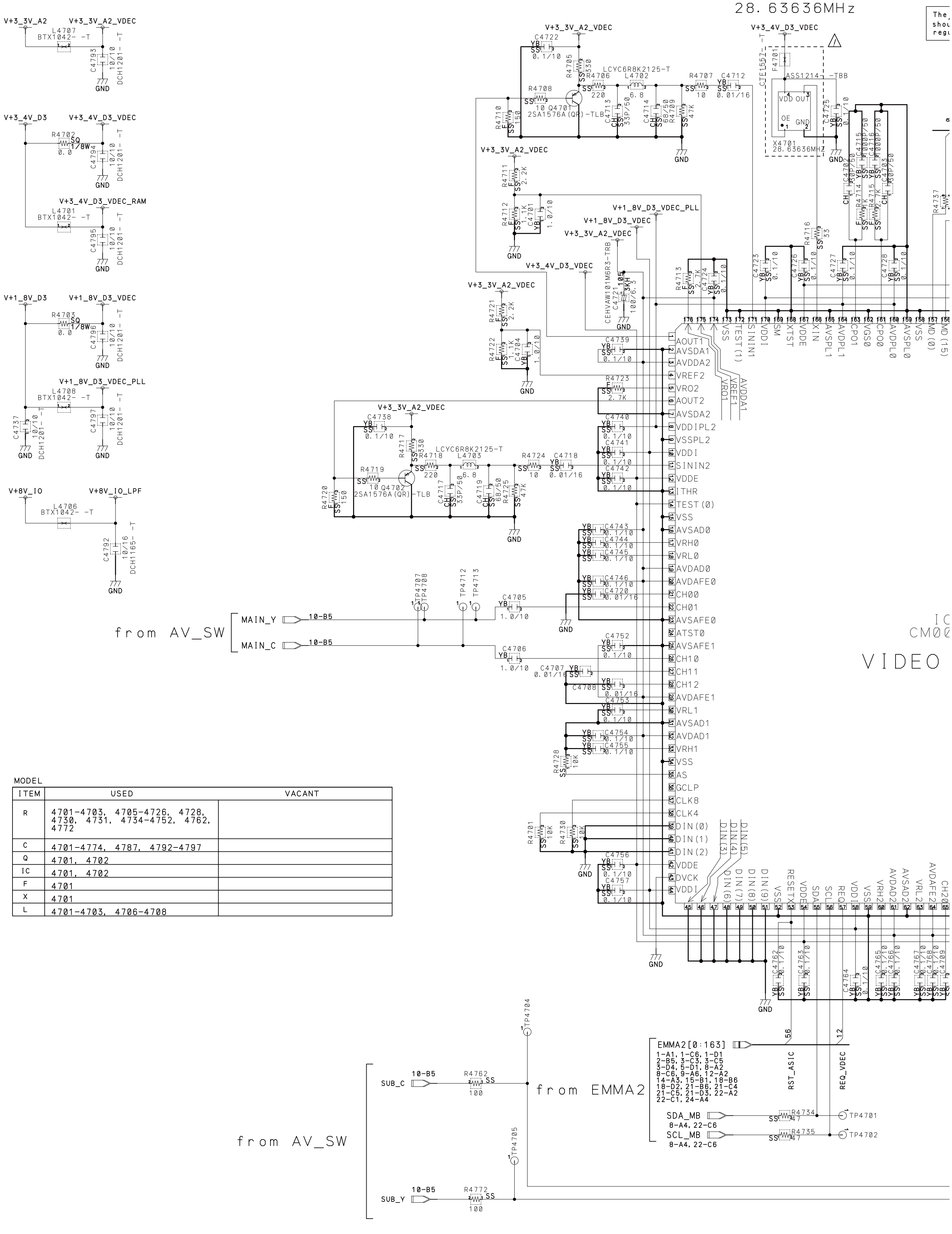

+3.5%, −8% 820mAmax
V+3_4V_D4
V+3_4V_D3
R4606
R4687
R4627
SS 4.7K
Q4609
RN1902-T
Q2
R4630
SS 1K
TP4605
TP4606
C4603
YB
NO USE
Q4613
RSS100N03-TBB
R4692
SS 1K
R4693
SS ST 1K
NO USE
GND
C4604
YB
SS 0.1/10
CKSSYB104K10-T
GND
+1%, −1.4% 160mAmax
V+1_8V_D2
R4610
V+1_8V_D3
Q4614
RTQ045N03-TLB
C4615
YB
SS 0.1/10
CKSSYB104K10-T
R4641
SS 1K
TP4613
TP4614
C4608
YB ST
0.1/16
NO USE
C4631
NO USE
100/6.3
CCG1232-T
GND
±1.5% 440mAmax
V+1_8V_ACT
TP4642
TP4643
VOUT
NC
C4656
10/10
DCH1201-T
R4690
SS 1K
R4691
SS 1K
NO USE
GND
V+3_4V_ACT +3.5%/−4.5% 980mAmax
for EMMA, VBI Slicer, Mod
STBY SW REG
V+5_1V_STB
V+3_4V_STB
V+3_4V_ACT
V+3_4V_STB
NO USE
R4632
SS ST 100K
R4631
SS 4.7K
TP4619
TP4620
R4607
SQ 0.0 1/8W
R4651
SQ 0.0 1/8W
Q4601
RSS090P03-TBB
from IF_UCOM
IF_UCOM[0:100]
1-B1, 1-C1, 1-C3
2-B2, 2-D3, 3-A5
8-D1, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
ACTIVE
61
NO USE
C4633
YB SS ST 0.1/10
R4648
SS 12K
Q4605
DTC124EUA-TLB
NO USE
C4632
CH SS ST 100P/50
C4634
YB SS 0.1/10
GND
V+3_4V_ACT
L4601
BTX1039- -T
TP4615
TP4616
TP4617
TP4618
R4643
SS 0
R4644
SS 10K
D4609
RB551V-30-TRB
NO USE
R4645
ST SS 0
R4646
SS 10K
D4610
RB551V-30-TRB
R4647
SS 0
V+2_5V_ACT ±3% 240mAmax
for EMMA, VBI Slicer
V+1_5V_ACT
C4610
22/10
BCG1059- -T
IC4601
LTC3407EMSE-2-TBB
VFB1
RUN1
VIN
SW1
GND
GND
VFB2
RUN2
POR
SW2
MODE/SYNC
R4658
SS ST 100K
NO USE
R4664
SS 100K
R4665
ST SS 0
NO USE
V+2_5V_ACT
TP4627
TP4628
R4614
SQ 0.0 1/8W
L4602
ATH1244- -T
2.2
L4603
ATH1244- -T
2.2
R4616
SQ 0.0 1/8W
TP4629
TP4630
NO USE
C4639
ST 10/10
DCH1201- -T
C4640
10/10
DCH1201- -T
R4659
D SS 150K
C4616
CH SS 47P/50
NO USE
C4611
YB ST 0.22/16
R4660
ST SS 22K
C4612
22/10
BCG1059- -T
R4663
D SS 100K
R4661
SS 0
R4662
SS 10K
C4613
YB ST 0.22/16
NO USE
C4617
CH SS 47P/50
R4666
D SS 200K
R4667
D SS 62K
C4641
10/10
DCH1201- -T
C4642
ST 10/10
DCH1201- -T
NO USE
R4668
SS 1K
GND
V+1_5V_ACT ±2.6% 510mAmax
for EMMA, VBI Slicer
V+3_4V_ACT2 +3.5%, −5% 25mAmax
for EMMA
V+1_5V_ACT2 +2.6%, −2.7% 23mAmax
for VBI Slicer
V+3_4V_ACT2
V+3_4V_ACT
R4615
SQ 0.0 1/8W
R4652
SQ 0.0 1/8W
V+1_5V_ACT
V+3_4V_STB
TP4632
TP4633
Aside φ1.0
NO USE
R4675
SS 10K
D4605
ST
1SS352-TRB
NO USE
R4678
SS 4.7K
R4679
SS ST 100K
C4646
YB SS ST 0.1/10
Q4603
UPA1917TE-TRB
R4680
SS 22K
TP4631
R4676
SS 0
Q4617
2SC4081(QR)-TLB
C4645
CH SS 100P/50
C4649
YB SS 0.1/10
C4647
ST 100/6.3
CCG1232- -T
NO USE
GND
GND
V+3_4V_ACT2
V+2_5V_ACT
NO USE
R4604
SQ 1/8W 0.0
D4606
ST
1SS352-TRB
R4677
ST SS 0
V+5_1V_STB
R4682
SS 4.7K
R4700
SS 10K
Q4612
RN1902-T
Q4612
RN1902-T
Q1
Q2
C4648
CH SS 100P/50
NO USE
GND
V+1_5V_ACT
R4617
SQ 1/8W 0.0
V+1_5V_ACT2
Q4615
RTQ045N03-TLB
C4618
YB SS 0.01/16
R4681
SS 1K
TP4634
TP4635
C4651
YB SS ST
0.1/10
NO USE

USED	VACANT
-4604, 4606-4620, -4695, 4698-4700	4608, 4611, 4619, 4625, 4626, 4628, 4632-4634, 4638, 4640, 4645, 4656, 4658, 4660, 4662, 4665, 4669-4673, 4677, 4679, 4686, 4690, 4691, 4693
-4662, 4665-4667	4601, 4603, 4605, 4607, 4608, 4611, 4613, 4614, 4619, 4622, 4624, 4625, 4627, 4629-4633, 4635-4637, 4639, 4642-4644, 4646, 4647, 4650-4653, 4657-4662, 4665-4667
-4619	4602, 4607, 4611
, 4603, 4604, 4606	
-4605	
-4606, 4608-4610, 4612	4601, 4602, 4604-4606

MAIN ASSY (MR_IBD) (05/25)
POWER_2 BLOCK

AWV2595- ; AWW1431

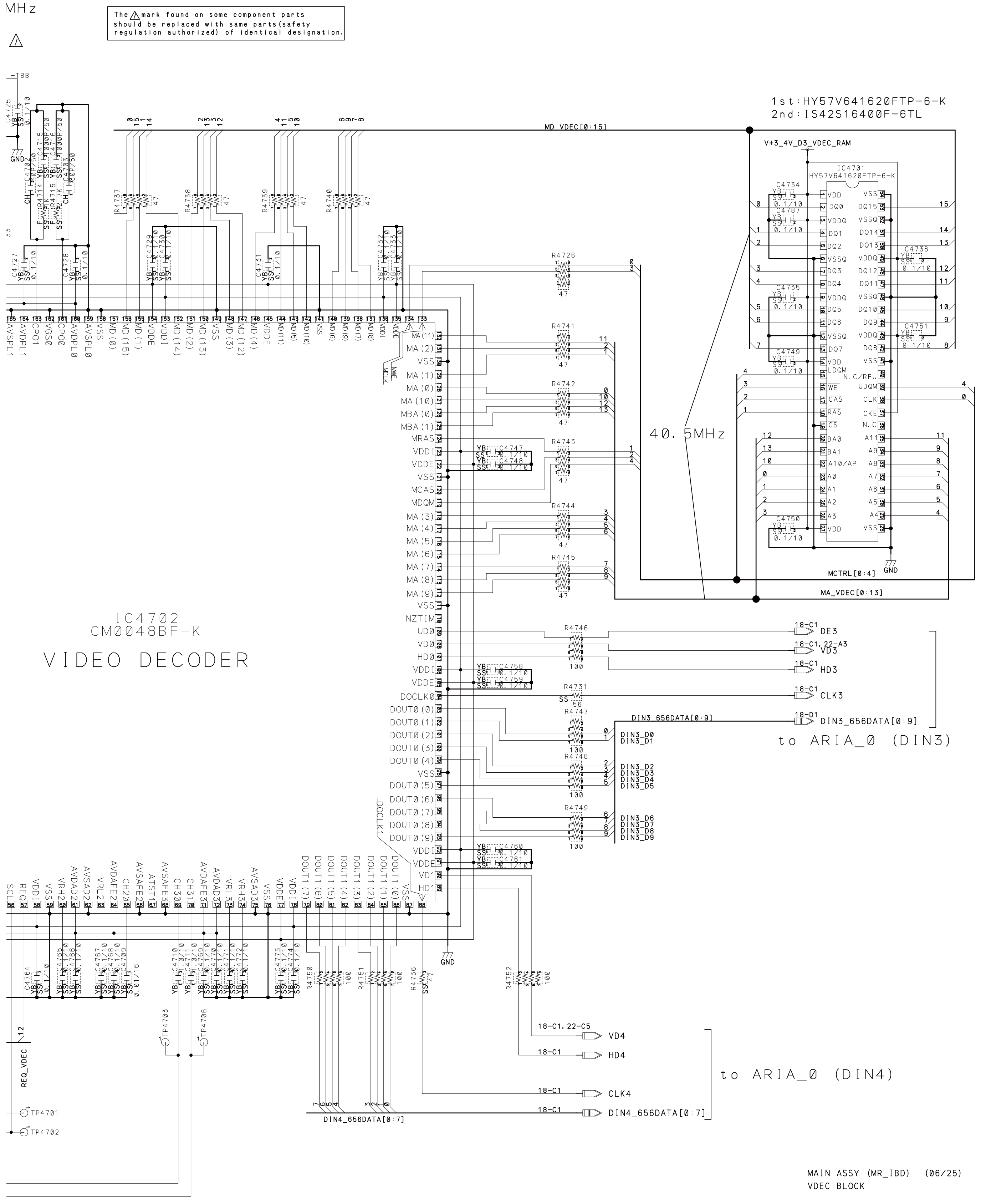
8.6 MAIN BLOCK ASSY (6/24) [VDEC BLOCK]


V+3_3V_A2
V+3_3V_A2_VDEC
L4707
BTX1042- -T
C4793
10/10
DCH1201- -T
GND
V+3_4V_D3
V+3_4V_D3_VDEC
R4702
SQ
1/8W
0.0
C4794
V+3_4V_D3_VDEC_RAM
L4701
C4795
V+1_8V_D3
V+1_8V_D3_VDEC
R4703
C4796
V+1_8V_D3_VDEC_PLL
L4708
C4737
C4797
V+8V_IO
V+8V_IO_LPF
L4706
C4792
10/16
DCH1165- -T
28.63636MHz
V+3_4V_D3_VDEC
CTF1557- -T
F4701
ASS1214- -TBB
VDD OUT
OE GND
X4701
28.63636MHz
C4722
0.1/10
R4705
330
R4706
220
LCYC6R8K2125-T
L4702
6.8
R4707
10
C4712
0.01/16
R4708
10 Q4701
2SA1576A(QR)-TLB
R4710
150
C4713
33P/50
C4714
68/50
R4709
47K
V+3_3V_A2_VDEC
R4711
2.2K
R4712
1.1K
C4701
1.0/10
V+1_8V_D3_VDEC_PLL
V+1_8V_D3_VDEC
V+3_3V_A2_VDEC
V+3_4V_D3_VDEC
CEHVAW101M6R3-TRB
C4721
100/6.3
R4713
4.7K
C4724
C4723
C4726
C4727
C4728
R4716
33
C4725
C4710
C4709
R4714
R4715
C4716
1000P/50
R4737
R4721
2.2K
R4722
1.1K
C4704
1.0/10
C4739
R4723
2.7K
C4740
C4741
C4742
V+3_3V_A2_VDEC
C4738
0.1/10
R4717
330
R4718
220
LCYC6R8K2125-T
L4703
6.8
R4724
10
C4718
0.01/16
R4719
10 Q4702
2SA1576A(QR)-TLB
R4720
150
C4717
33P/50
C4719
68/50
R4726
47K
C4743
C4744
C4745
C4746
C4720
0.01/16
TP4707
TP4708
TP4712
TP4713
C4705
1.0/10
C4706
1.0/10
C4707
0.01/16
C4708
C4752
C4753
C4754
C4755
R4728
10K
R4701
10K
R4730
10K
C4756
C4757
from AV_SW
MAIN_Y
MAIN_C
10-B5
AOUT1
AVSDA1
AVDDA2
VREF2
VRO2
AOUT2
AVSDA2
VDDIPL2
VSSPL2
VDDI
SININ2
VDDE
ITHR
TEST(0)
VSS
AVSAD0
VRH0
VRL0
AVDAD0
AVDAFE0
CH00
CH01
AVSAFE0
ATST0
AVSAFE1
CH10
CH11
CH12
AVDAFE1
VRL1
AVSAD1
AVDAD1
VRH1
VSS
AS
GCLP
CLK8
CLK4
DIN(0)
DIN(1)
DIN(2)
VDDE
DVCK
VDDI
VSS
TEST(1)
SININ1
VDDI
SM
XTST
VDDE
XIN
AVSPL1
AVDPL1
CPO1
VSS0
CPO0
AVDPL0
AVSPL0
VSS
MD(0)
MD(15)
VREF1
VRO1
AVDDA1
DIN(3)
DIN(4)
DIN(5)
DIN(6)
DIN(7)
DIN(8)
DIN(9)
VSS
RESETX
VDDE
SDA
SCL
REQ
VDDI
VSS
VRH2
AVDAD2
AVSAD2
VRL2
AVDAFE2
CH20
IC
CM00
VIDEO
C4762
C4763
C4764
C4765
C4766
C4767
C4768
C4769
TP4704
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 8-A2
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
56
12
RST_ASIC
REQ_VDEC
SUB_C
10-B5
R4762
100
from EMMA2
SDA_MB
8-A4, 22-C6
R4734
47
TP4701
SCL_MB
8-A4, 22-C6
R4735
47
TP4702
from AV_SW
TP4705
SUB_Y
10-B5
R4772
100
The
shou
regu

MODEL

ITEM	USED	VACANT
R	4701-4703, 4705-4726, 4728, 4730, 4731, 4734-4752, 4762, 4772	
C	4701-4774, 4787, 4792-4797	
Q	4701, 4702	
IC	4701, 4702	
F	4701	
X	4701	
L	4701-4703, 4706-4708	

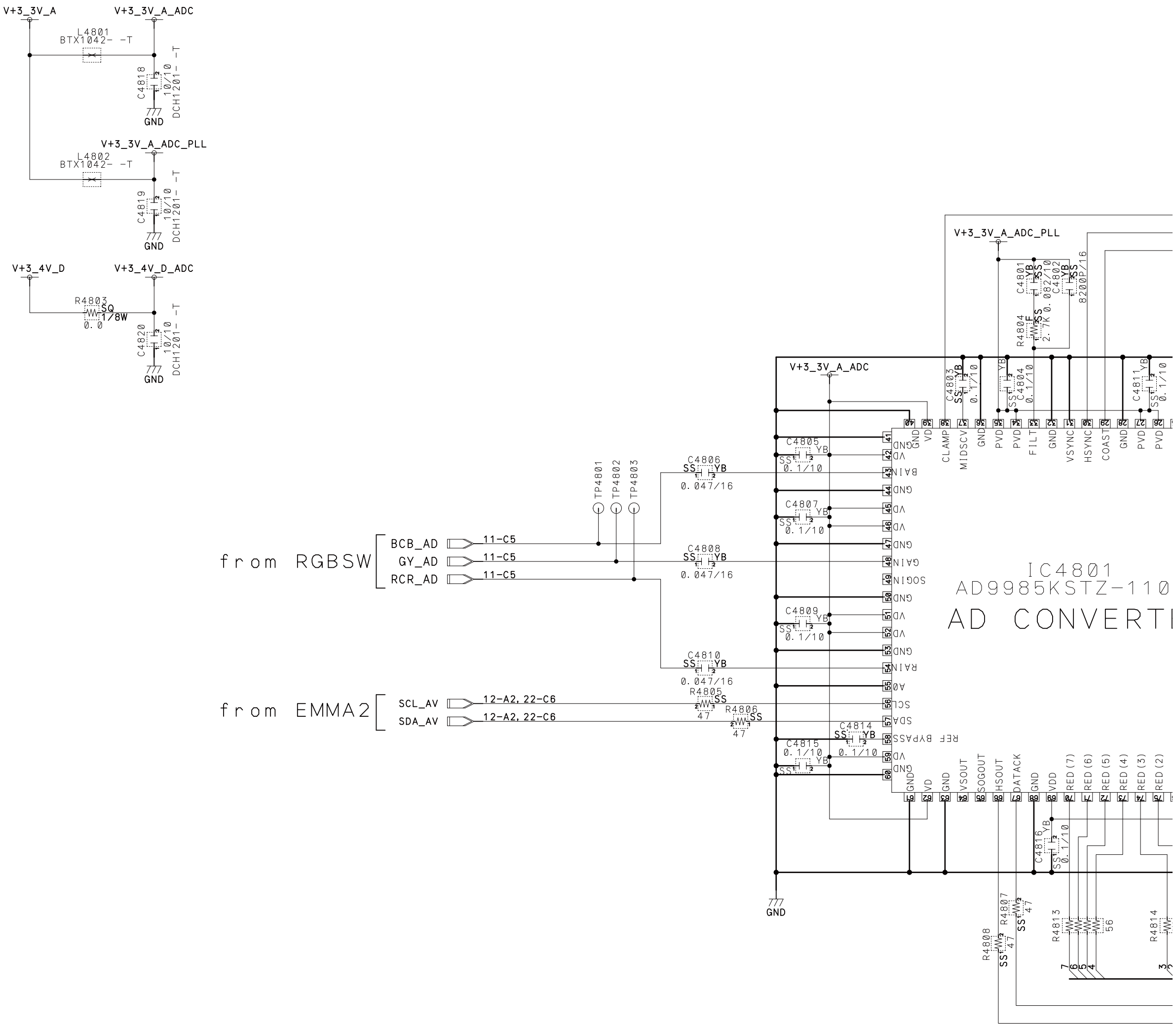
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

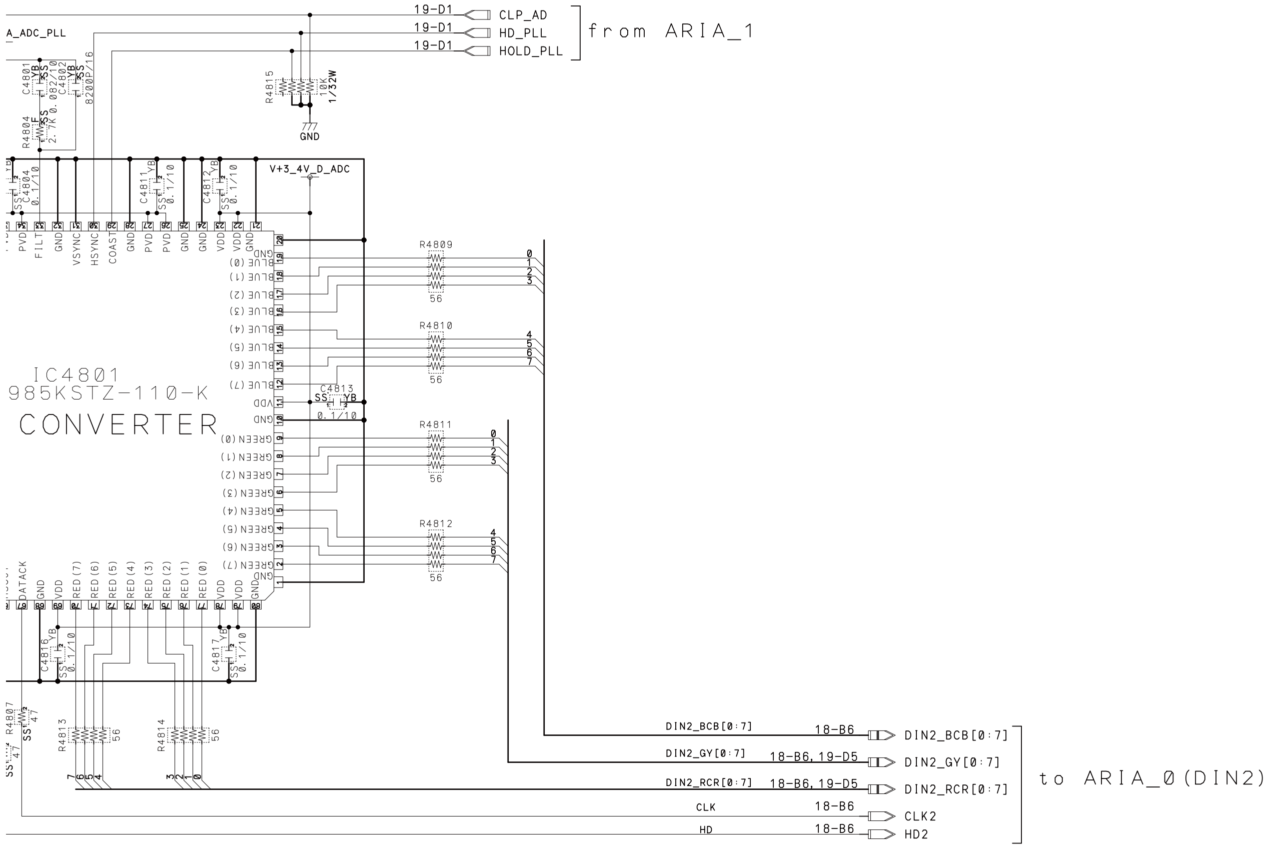

MHz
⚠
1st:HY57V641620FTP-6-K
2nd:IS42S16400F-6TL
MD_VDEC[0:15]
V+3_4V_D3_VDEC_RAM
IC4701
HY57V641620FTP-6-K
40.5MHz
MCTRL[0:4]
MA_VDEC[0:13]
GND
IC4702
CM0048BF-K
VIDEO DECODER
DE3
VD3
HD3
CLK3
DIN3_656DATA[0:9]
to ARIA_0 (DIN3)
DIN3_D0
DIN3_D1
DIN3_D2
DIN3_D3
DIN3_D4
DIN3_D5
DIN3_D6
DIN3_D7
DIN3_D8
DIN3_D9
VD4
HD4
CLK4
DIN4_656DATA[0:7]
to ARIA_0 (DIN4)
REQ_VDEC
TP4701
TP4702
TP4703
TP4706
R4726
R4741
R4742
R4743
R4744
R4745
R4746
R4731
R4747
R4748
R4749
R4750
R4751
R4736
R4752
18-C1
18-C1,22-A3
18-D1
18-C1,22-C5

MAIN ASSY (MR_IBD) (06/25)
VDEC BLOCK

AWV2595- ; AWW1431

8.7 MAIN BLOCK ASSY (7/24) [ADC BLOCK]


V+3_3V_A
V+3_3V_A_ADC
L4801
BTX1042- -T
C4818
10/10
DCH1201- -T
GND
V+3_3V_A_ADC_PLL
L4802
BTX1042- -T
C4819
10/10
DCH1201- -T
GND
V+3_4V_D
V+3_4V_D_ADC
R4803
SQ
1/8W
0.0
C4820
10/10
DCH1201- -T
GND
V+3_3V_A_ADC_PLL
C4801 YB SS 0.082/10
C4802 YB SS 8200P/16
R4804 F SS 2.7K
V+3_3V_A_ADC
C4803 SS YB 0.1/10
C4804 SS YB 0.1/10
C4811 SS YB 0.1/10
C4805 SS YB 0.1/10
C4806 SS YB 0.047/16
C4807 SS YB 0.1/10
C4808 SS YB 0.047/16
C4809 SS YB 0.1/10
C4810 SS YB 0.047/16
R4805 SS 47
R4806 SS 47
C4814 SS YB 0.1/10
C4815 SS YB 0.1/10
C4816 SS YB 0.1/10
TP4801
TP4802
TP4803
from RGBSW
BCB_AD 11-C5
GY_AD 11-C5
RCR_AD 11-C5
from EMMA2
SCL_AV 12-A2, 22-C6
SDA_AV 12-A2, 22-C6
IC4801
AD9985KSTZ-110
AD CONVERTI
40 GND
39 VD
38 CLAMP
37 MIDSCV
36 GND
35 PVD
34 PVD
33 FILT
32 GND
31 VSYNC
30 HSYNC
29 COAST
28 GND
27 PVD
26 PVD
41 GND
42 VD
43 BAIN
44 GND
45 VD
46 VD
47 GND
48 GAIN
49 SOGIN
50 GND
51 VD
52 VD
53 GND
54 RAIN
55 A0
56 SCL
57 SDA
58 REF BYPASS
59 VD
60 GND
61 GND
62 VD
63 GND
64 VSOUT
65 SOGOUT
66 HSOUT
67 DATACK
68 GND
69 VDD
70 RED(7)
71 RED(6)
72 RED(5)
73 RED(4)
74 RED(3)
75 RED(2)
GND
R4808 SS 47
R4807 SS 47
R4813 56
R4814
7 6 5 4 3


19-D1
CLP_AD
19-D1
HD_PLL
19-D1
HOLD_PLL
from ARIA_1
A_ADC_PLL
R4815
10K
1/32W
GND
C4801
C4802
0.082/10
8200P/16
R4804
2.7K
V+3_4V_D_ADC
C4804
0.1/10
C4811
C4812
PVD
FILT
GND
VSYNC
HSYNC
COAST
VDD
IC4801
985KSTZ-110-K
CONVERTER
BLUE(0)
BLUE(1)
BLUE(2)
BLUE(3)
BLUE(4)
BLUE(5)
BLUE(6)
BLUE(7)
GREEN(0)
GREEN(1)
GREEN(2)
GREEN(3)
GREEN(4)
GREEN(5)
GREEN(6)
GREEN(7)
RED(7)
RED(6)
RED(5)
RED(4)
RED(3)
RED(2)
RED(1)
RED(0)
DATACK
R4809
R4810
R4811
R4812
56
C4813
0.1/10
C4816
C4817
R4807
47
R4813
R4814
DIN2_BCB[0:7]
18-B6
DIN2_GY[0:7]
18-B6, 19-D5
DIN2_RCR[0:7]
18-B6, 19-D5
CLK
18-B6
CLK2
HD
18-B6
HD2
to ARIA_0(DIN2)

MODEL

ITEM	USED	VACANT
R	4803-4815	
C	4801-4820	
IC	4801	
L	4801, 4802	

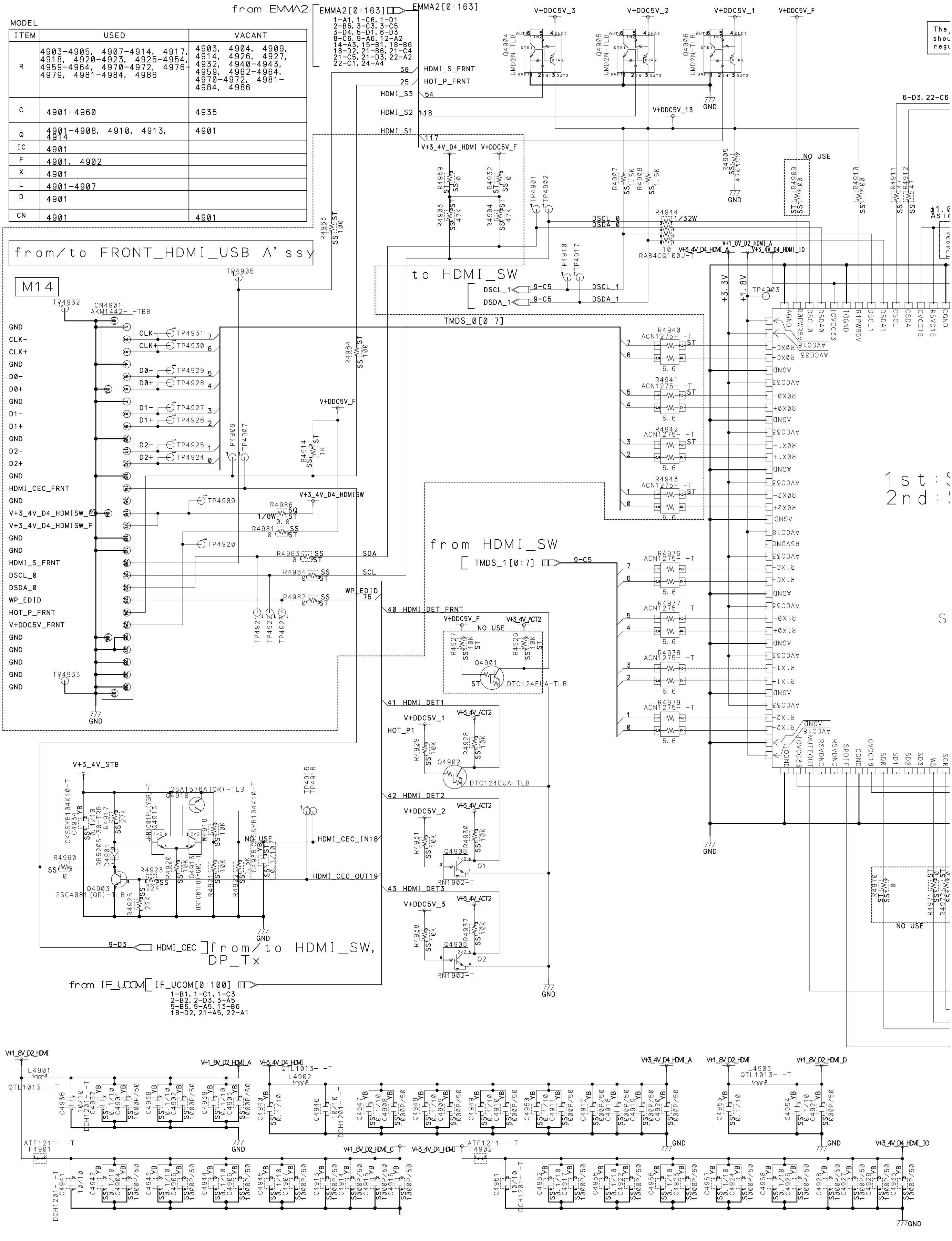
MAIN ASSY (MR_IBD) (07/25)
ADC BLOCK

AWV2595- ; AWW1431

8.8 MAIN BLOCK ASSY (8/24) [HDMI_RX BLOCK]

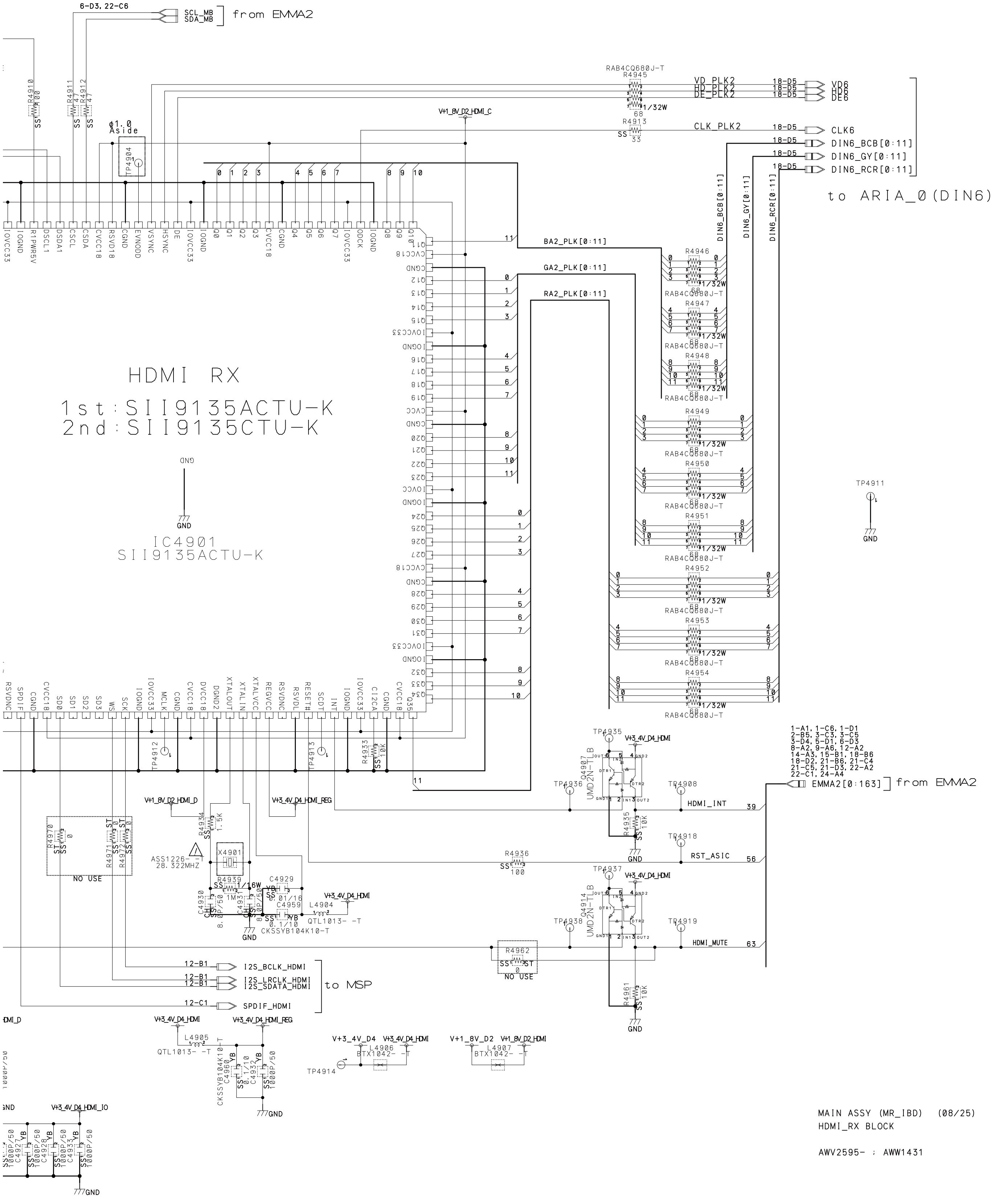
MODEL

ITEM	USED	VACANT
R	4903-4905, 4907-4914, 4917, 4918, 4920-4923, 4925-4954, 4959-4964, 4970-4972, 4976-4979, 4981-4984, 4986	4903, 4904, 4909, 4914, 4926, 4927, 4932, 4940-4943, 4959, 4962-4964, 4970-4972, 4981-4984, 4986
C	4901-4960	4935
Q	4901-4908, 4910, 4913, 4914	4901
IC	4901	
F	4901, 4902	
X	4901	
L	4901-4907	
D	4901	
CN	4901	4901



A
B
C
D
E
F
from EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-C6, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
HDMI_S_FRNT
HOT_P_FRNT
HDMI_S3
HDMI_S2
HDMI_S1
V+DDC5V_3
V+DDC5V_2
V+DDC5V_1
V+DDC5V_F
V+DDC5V_13
Q4904 UMD2N-TLB
Q4905 UMD2N-TLB
Q4906 UMD2N-TLB
6-D3, 22-C6
NO USE
from/to FRONT_HDMI_USB A'ssy
M14
CN4901 AKM1442- -TBB
GND
CLK-
CLK+
D0-
D0+
D1-
D1+
D2-
D2+
HDMI_CEC_FRNT
V+3_4V_D4_HDMISW_F
HDMI_S_FRNT
DSCL_0
DSDA_0
WP_EDID
HOT_P_FRNT
V+DDC5V_FRNT
to HDMI_SW
DSCL_1
DSDA_1
9-C5
TMDS_0[0:7]
R4944 1/32W
RAB4CQ100J-T
V+1_8V_D2_HDMI_A
V+3_4V_D4_HDMI_A
V+3_4V_D4_HDMI_IO
+3.3V
+1.8V
ACN1275- -T
R4940
R4941
R4942
R4943
R4976
R4977
R4978
R4979
5.6
from HDMI_SW
TMDS_1[0:7]
1st:S
2nd:S
40 HDMI_DET_FRNT
41 HDMI_DET1
42 HDMI_DET2
43 HDMI_DET3
Q4901 DTC124EUA-TLB
Q4902 DTC124EUA-TLB
HOT_P1
V+3_4V_ACT2
RN1902-T
Q1
Q2
V+3_4V_STB
2SA1576A(QR)-TLB Q4910
HN1C01FU(YGR)-T
Q4903 2SC4081(QR)-TLB
RB520S-30-TRB D4901
HDMI_CEC_IN18
HDMI_CEC_OUT19
9-D3
HDMI_CEC
from/to HDMI_SW, DP_Tx
from IF_UCOM
IF_UCOM[0:100]
1-B1, 1-C1, 1-C3
2-B2, 2-D3, 3-A5
5-B5, 9-A5, 13-B6
18-D2, 21-A5, 22-A1
V+1_8V_D2_HDMI
L4901
QTL1013- -T
L4902
L4903
ATF1211- -T
F4901
F4902
V+1_8V_D2_HDMI_C
V+3_4V_D4_HDMI
V+1_8V_D2_HDMI_D
DCH1201- -T
SDA
SCL

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


6-D3, 22-C6
SCL_MB
SDA_MB
from EMMA2
R4910
R4911
R4912
φ1.0
Aside
TP4904
RAB4CQ680J-T
R4945
VD_PLK2
HD_PLK2
DE_PLK2
18-D5
VD6
HD6
DE6
1/32W
68
R4913
33
CLK_PLK2
CLK6
DIN6_BCB[0:11]
DIN6_GY[0:11]
DIN6_RCR[0:11]
to ARIA_0(DIN6)
V+1_8V_D2_HDMI_C
BA2_PLK[0:11]
GA2_PLK[0:11]
RA2_PLK[0:11]
R4946
R4947
R4948
R4949
R4950
R4951
R4952
R4953
R4954
RAB4CQ680J-T
HDMI RX
1st:SII9135ACTU-K
2nd:SII9135CTU-K
GND
IC4901
SII9135ACTU-K
TP4911
GND
TP4912
TP4913
R4933
10K
TP4935
V+3_4V_D4_HDMI
Q4907
UMD2N-T_LB
TP4936
TP4908
HDMI_INT
39
R4935
10K
TP4918
RST_ASIC
56
R4936
100
TP4937
Q4914
UMD2N-T_LB
TP4938
TP4919
HDMI_MUTE
63
R4961
10K
GND
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 9-A6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
EMMA2[0:163]
from EMMA2
V+1_8V_D2_HDMI_D
V+3_4V_D4_HDMI_REG
R4934
1.5K
R4970
R4971
R4972
NO USE
ASS1226-
28.322MHZ
X4901
R4939
1/16W
1M
C4929
C4930
C4931
C4959
0.1/16
L4904
QTL1013- -T
CKSSYB104K10-T
GND
R4962
NO USE
12-B1
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
12-C1
SPDIF_HDMI
to MSP
V+3_4V_D4_HDMI
V+3_4V_D4_HDMI_REG
L4905
QTL1013- -T
CKSSYB104K10-T
C4960
0.1/10
C4932
1000P/50
GND
V+3_4V_D4
V+3_4V_D4_HDMI
L4906
BTX1042- -T
TP4914
V+1_8V_D2
V+1_8V_D2_HDMI
L4907
BTX1042- -T
V+3_4V_D4_HDMI_IO
C4927
C4928
C4933
1000P/50
GND

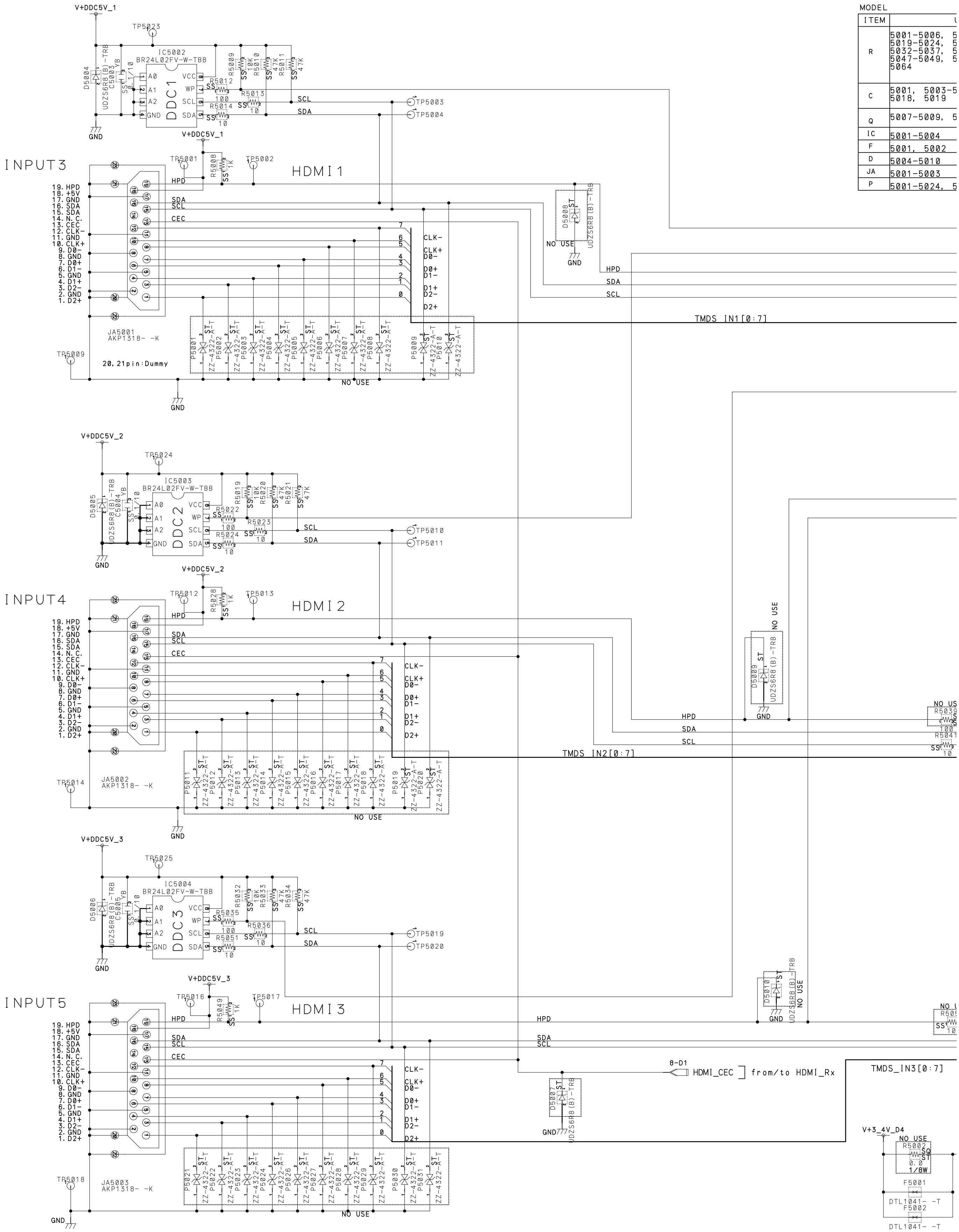
MAIN ASSY (MR_IBD) (08/25)
HDMI_RX BLOCK

AWV2595- ; AWW1431

8.9 MAIN BLOCK ASSY (9/24) [HDMI_SW BLOCK]

MODEL

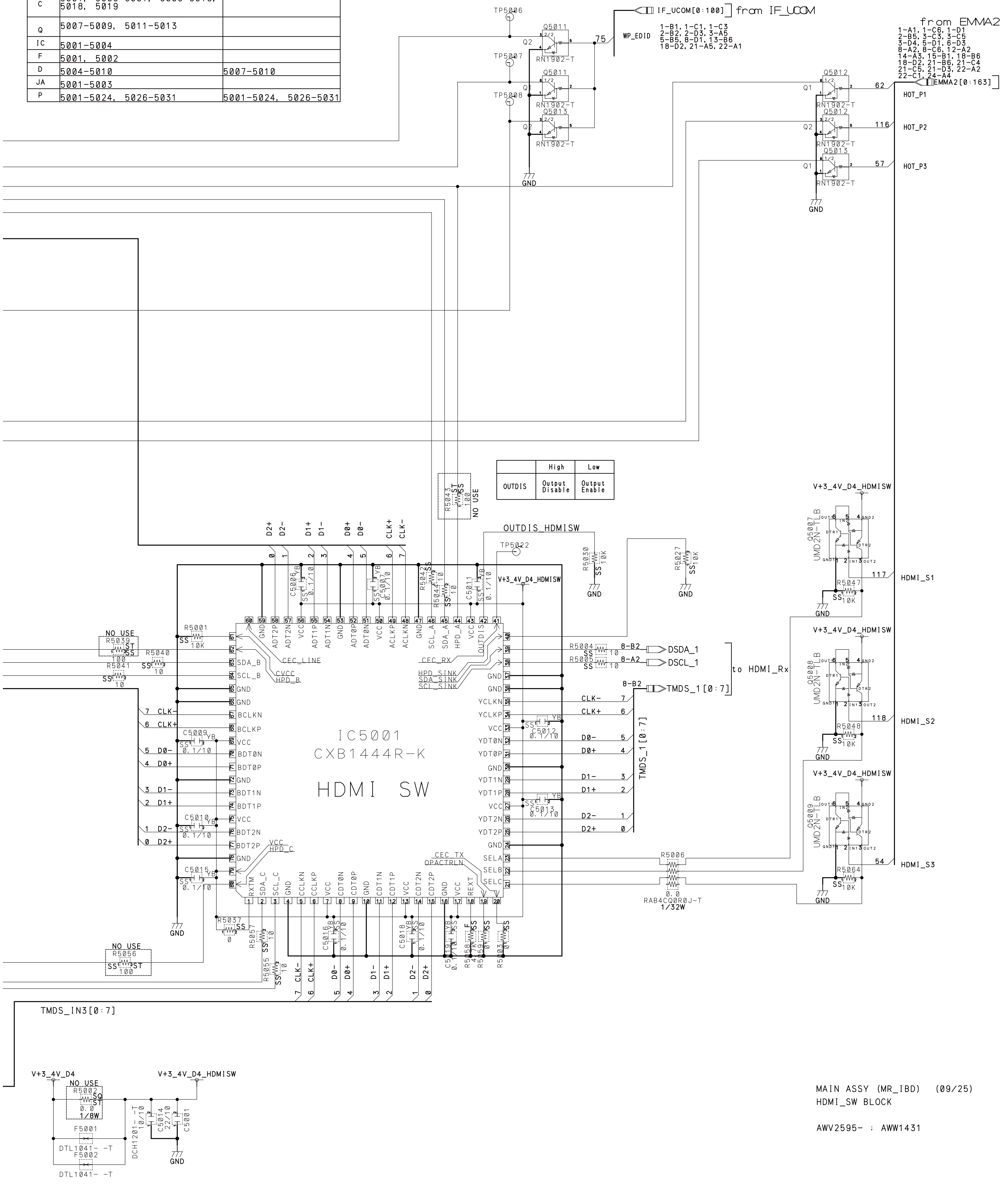
ITEM	U
R	5001-5006, 5 5019-5024, 5 5032-5037, 5 5047-5049, 5 5064
C	5001, 5003-5 5018, 5019
Q	5007-5009, 5
IC	5001-5004
F	5001, 5002
D	5004-5010
JA	5001-5003
P	5001-5024, 5



A
B
C
D
E
F
V+DDC5V_1
TP5023
IC5002
BR24L02FV-W-TBB
DDC1
A0
A1
A2
GND
VCC
WP
SCL
SDA
D5004
UDZS6R8(B)-TRB
C5003
0.1/10
R5009
R5010
R5011
10K
47K
R5012
100
R5013
R5014
10
SCL
SDA
TP5003
TP5004
INPUT3
V+DDC5V_1
TP5001
R5008
1K
TP5002
HDMI1
19. HPD
18. +5V
17. GND
16. SDA
15. SDA
14. N.C.
13. CEC
12. CLK-
11. GND
10. CLK+
9. D0-
8. GND
7. D0+
6. D1-
5. GND
4. D1+
3. D2-
2. GND
1. D2+
HPD
SDA
SCL
CEC
CLK-
CLK+
D0-
D0+
D1-
D1+
D2-
D2+
D5008
NO USE
GND
TMDS_IN1[0:7]
JA5001
AKP1318- -K
TP5009
20,21pin:Dummy
P5001
P5002
P5003
P5004
P5005
P5006
P5007
P5008
P5009
P5010
ZZ-4322-A-T
NO USE
GND
V+DDC5V_2
TP5024
IC5003
BR24L02FV-W-TBB
DDC2
D5005
C5004
R5019
R5020
R5021
R5022
R5023
R5024
TP5010
TP5011
INPUT4
V+DDC5V_2
TP5012
R5028
TP5013
HDMI2
D5009
NO USE
TMDS_IN2[0:7]
JA5002
AKP1318- -K
TP5014
P5011
P5012
P5013
P5014
P5015
P5016
P5017
P5018
P5019
P5020
R5039
R5041
V+DDC5V_3
TP5025
IC5004
BR24L02FV-W-TBB
DDC3
D5006
C5005
R5032
R5033
R5034
R5035
R5036
R5051
TP5019
TP5020
INPUT5
V+DDC5V_3
TP5016
R5049
TP5017
HDMI3
D5010
8-D1
HDMI_CEC
from/to HDMI_Rx
TMDS_IN3[0:7]
D5007
JA5003
AKP1318- -K
TP5018
P5021
P5022
P5023
P5024
P5026
P5027
P5028
P5029
P5030
P5031
V+3_4V_D4
NO USE
R5002
0.0
1/8W
F5001
DTL1041- -T
F5002
DTL1041- -T

MODEL

ITEM	USED	VACANT
R	5001-5006, 5008-5014, 5019-5024, 5027, 5028, 5030, 5032-5037, 5039-5044, 5047-5049, 5051, 5055-5059, 5064	5002, 5039, 5043, 5056
C	5001, 5003-5007, 5009-5016, 5018, 5019	
Q	5007-5009, 5011-5013	
IC	5001-5004	
F	5001, 5002	
D	5004-5010	5007-5010
JA	5001-5003	
P	5001-5024, 5026-5031	5001-5024, 5026-5031

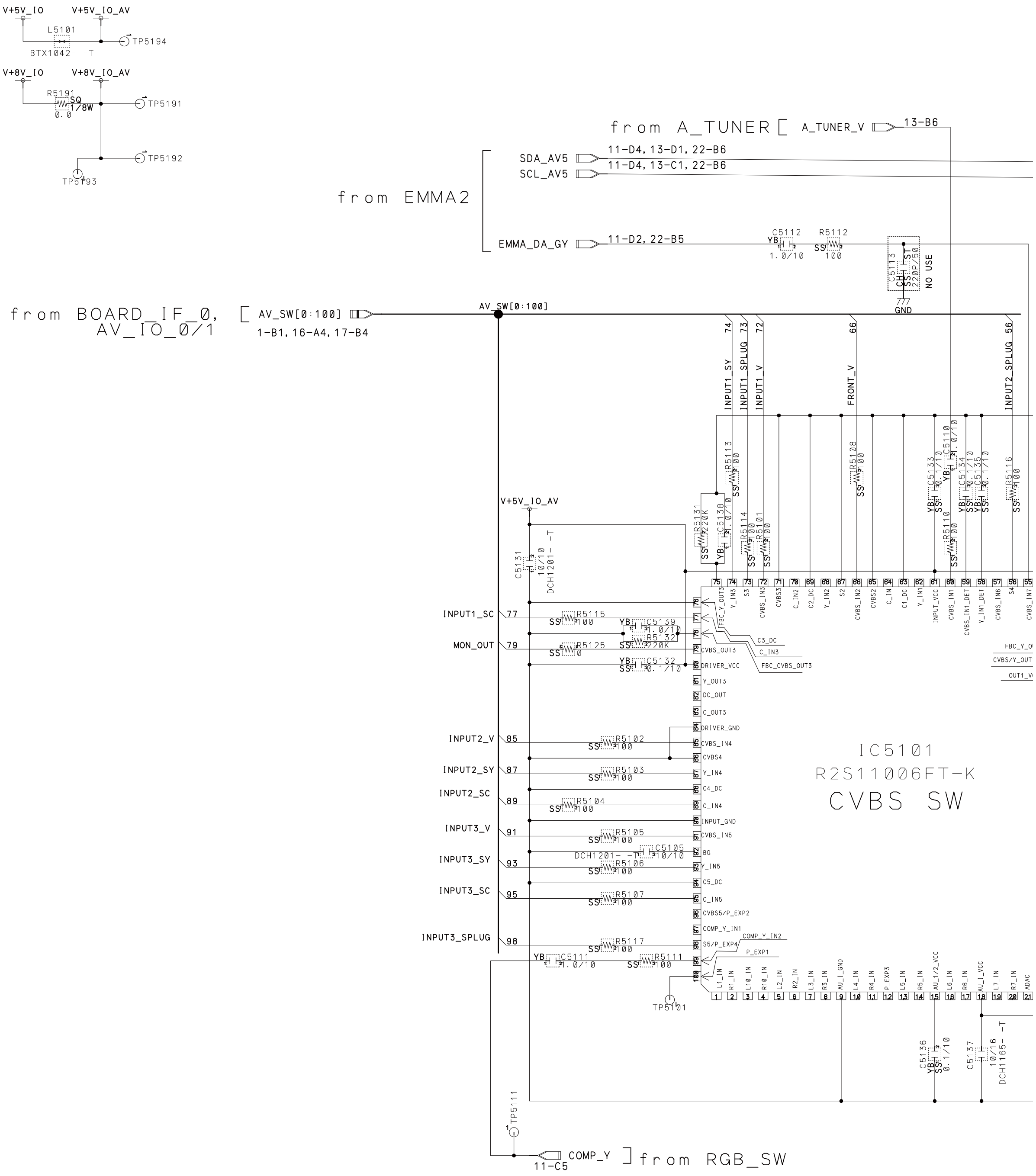

TP5006
TP5007
TP5008
Q5011
Q5013
Q2
Q1
RN1902-T
GND
75
WP_EDID
IF_UCOM[0:100]
from IF_UCOM
1-B1, 1-C1, 1-C3
2-B2, 2-D3, 3-A5
5-B5, 8-D1, 13-B6
18-D2, 21-A5, 22-A1
from EMMA2
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 12-A2
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
EMMA2[0:163]
Q5012
62
116
57
HOT_P1
HOT_P2
HOT_P3
R5043
NO USE
OUTDIS_HDMISW
TP5022
V+3_4V_D4_HDMISW
R5030
R5027
10K
D2+
D2-
D1+
D1-
D0+
D0-
CLK+
CLK-
C5006
C5007
C5011
R5042
R5044
0.1/10
IC5001
CXB1444R-K
HDMI SW
GND
ADT2P
ADT2N
VCC
ADT1P
ADT1N
ADT0P
ADT0N
ACLKP
ACLKN
SCL_A
SDA_A
HPD_A
OUTDIS
CEC_LINE
CVCC
HPD_B
CEC_RX
HPD_SINK
SDA_SINK
SCL_SINK
R5001
R5039
R5040
R5041
SDA_B
SCL_B
BCLKN
BCLKP
BDT0N
BDT0P
BDT1N
BDT1P
BDT2N
BDT2P
C5009
C5010
C5015
VCC
HPD_C
YCLKN
YCLKP
YDT0N
YDT0P
YDT1N
YDT1P
YDT2N
YDT2P
C5012
C5013
CEC_TX
OPACTRLN
SELA
SELB
SELC
R5004
R5005
8-B2
8-A2
DSDA_1
DSCL_1
TMDS_1[0:7]
to HDMI_Rx
TMDS_1[0:7]
R5006
0.0
RAB4CQ0R0J-T
1/32W
Q5007
Q5008
Q5009
UMD2N-TLB
R5047
R5048
R5064
117
118
54
HDMI_S1
HDMI_S2
HDMI_S3
RXTM
SDA_C
SCL_C
CCLKN
CCLKP
CDT0N
CDT0P
CDT1N
CDT1P
CDT2N
CDT2P
REXT
R5037
R5057
R5055
R5056
C5016
C5018
C5019
R5058
R5059
R5003
4.7K
TMDS_IN3[0:7]
V+3_4V_D4
R5002
0.0
1/8W
F5001
F5002
DTL1041- -T
DCH1201- -T
10/10
C5014
22/10
C5001

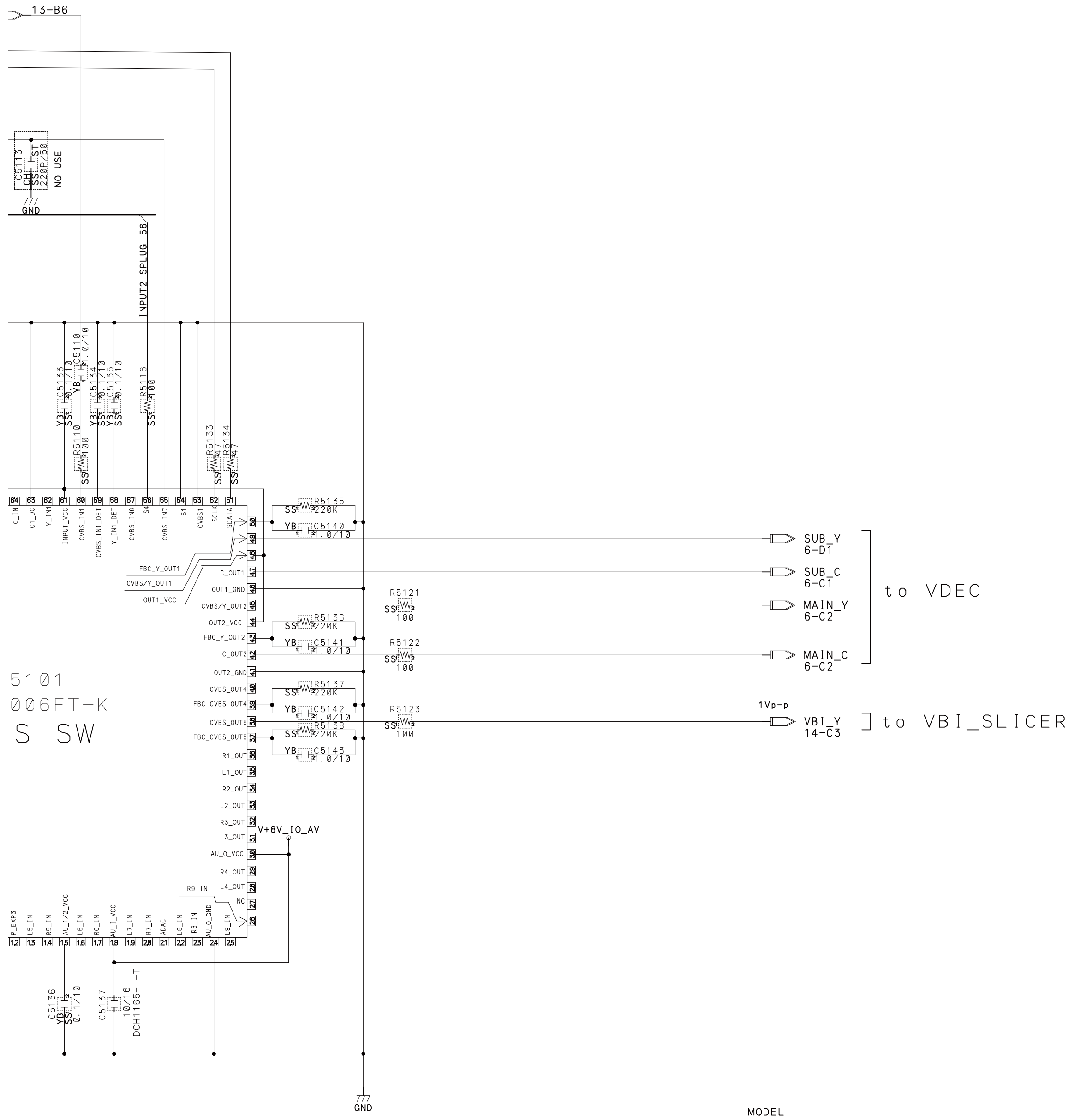
	High	Low
OUTDIS	Output Disable	Output Enable

MAIN ASSY (MR_IBD) (09/25)
HDMI_SW BLOCK

AWV2595- ; AWW1431

8.10 MAIN BLOCK ASSY (10/24) [AV_SW BLOCK]


V+5V_IO
V+5V_IO_AV
L5101
BTX1042- -T
TP5194
V+8V_IO
V+8V_IO_AV
R5191
SQ
1/8W
0.0
TP5191
TP5192
TP5193
from A_TUNER
A_TUNER_V
13-B6
from EMMA2
SDA_AV5
SCL_AV5
11-D4, 13-D1, 22-B6
11-D4, 13-C1, 22-B6
EMMA_DA_GY
11-D2, 22-B5
C5112
1.0/10
R5112
100
C5113
220P/50
NO USE
GND
from BOARD_IF_0, AV_IO_0/1
AV_SW[0:100]
1-B1, 16-A4, 17-B4
INPUT1_SY 74
INPUT1_SPLUG 73
INPUT1_V 72
FRONT_V 66
INPUT2_SPLUG 56
V+5V_IO_AV
C5131
10/10
DCH1201- -T
R5131
220K
C5138
R5113
R5114
R5101
R5108
R5133
C5110
R5110
C5134
R5135
R5116
INPUT1_SC 77
MON_OUT 79
R5115
C5139
R5132
220K
R5125
C5132
0.1/10
INPUT2_V 85
INPUT2_SY 87
INPUT2_SC 89
INPUT3_V 91
INPUT3_SY 93
INPUT3_SC 95
INPUT3_SPLUG 98
R5102
R5103
R5104
R5105
C5105
DCH1201- -T
10/10
R5106
R5107
R5117
C5111
1.0/10
R5111
100
TP5101
TP5111
COMP_Y
11-C5
from RGB_SW
C5136
0.1/10
C5137
10/16
DCH1165- -T
IC5101
R2S11006FT-K
CVBS SW
FBC_Y_OUT3
Y_IN3
S3
CVBS_IN3
CVBS3
C_IN2
C2_DC
Y_IN2
S2
CVBS_IN2
CVBS2
C_IN
C1_DC
Y_IN1
INPUT_VCC
CVBS_IN1
CVBS_IN1_DET
Y_IN1_DET
CVBS_IN6
S4
CVBS_IN7
C3_DC
C_IN3
FBC_CVBS_OUT3
CVBS_OUT3
DRIVER_VCC
Y_OUT3
DC_OUT
C_OUT3
DRIVER_GND
CVBS_IN4
CVBS4
Y_IN4
C4_DC
C_IN4
INPUT_GND
CVBS_IN5
BG
Y_IN5
C5_DC
C_IN5
CVBS5/P_EXP2
COMP_Y_IN1
S5/P_EXP4
COMP_Y_IN2
P_EXP1
L1_IN
R1_IN
L10_IN
R10_IN
L2_IN
R2_IN
L3_IN
R3_IN
AU_1_GND
L4_IN
R4_IN
P_EXP3
L5_IN
R5_IN
AU_1/2_VCC
L6_IN
R6_IN
AU_1_VCC
L7_IN
R7_IN
ADAC
FBC_Y_OUT
CVBS/Y_OUT
OUT1_V


13-B6
C5113
CH
SS
220P/50
NO USE
GND
INPUT2_SPLUG 56
C5133
YB
SS
0.1/10
C5110
1.0/10
C5134
C5135
R5110
100
R5116
R5133
R5134
47
R5135
220K
C5140
1.0/10
R5136
C5141
R5137
C5142
R5138
C5143
R5121
R5122
R5123
C_IN
C1_DC
Y_IN1
INPUT_VCC
CVBS_IN1
CVBS_IN1_DET
Y_IN1_DET
CVBS_IN6
S4
CVBS_IN7
S1
CVBS1
SCLK
SDATA
FBC_Y_OUT1
CVBS/Y_OUT1
OUT1_VCC
C_OUT1
OUT1_GND
CVBS/Y_OUT2
OUT2_VCC
FBC_Y_OUT2
C_OUT2
OUT2_GND
CVBS_OUT4
FBC_CVBS_OUT4
CVBS_OUT5
FBC_CVBS_OUT5
R1_OUT
L1_OUT
R2_OUT
L2_OUT
R3_OUT
L3_OUT
AU_O_VCC
R4_OUT
L4_OUT
NC
R9_IN
V+8V_IO_AV
P_EXP3
L5_IN
R5_IN
AU_1/2_VCC
L6_IN
R6_IN
AU_I_VCC
L7_IN
R7_IN
ADAC
L8_IN
R8_IN
AU_O_GND
L9_IN
5101
006FT-K
S SW
SUB_Y
6-D1
SUB_C
6-C1
MAIN_Y
6-C2
MAIN_C
6-C2
to VDEC
1Vp-p
VBI_Y
14-C3
to VBI_SLICER
C5136
0.1/10
C5137
10/16
DCH1165- -T
GND

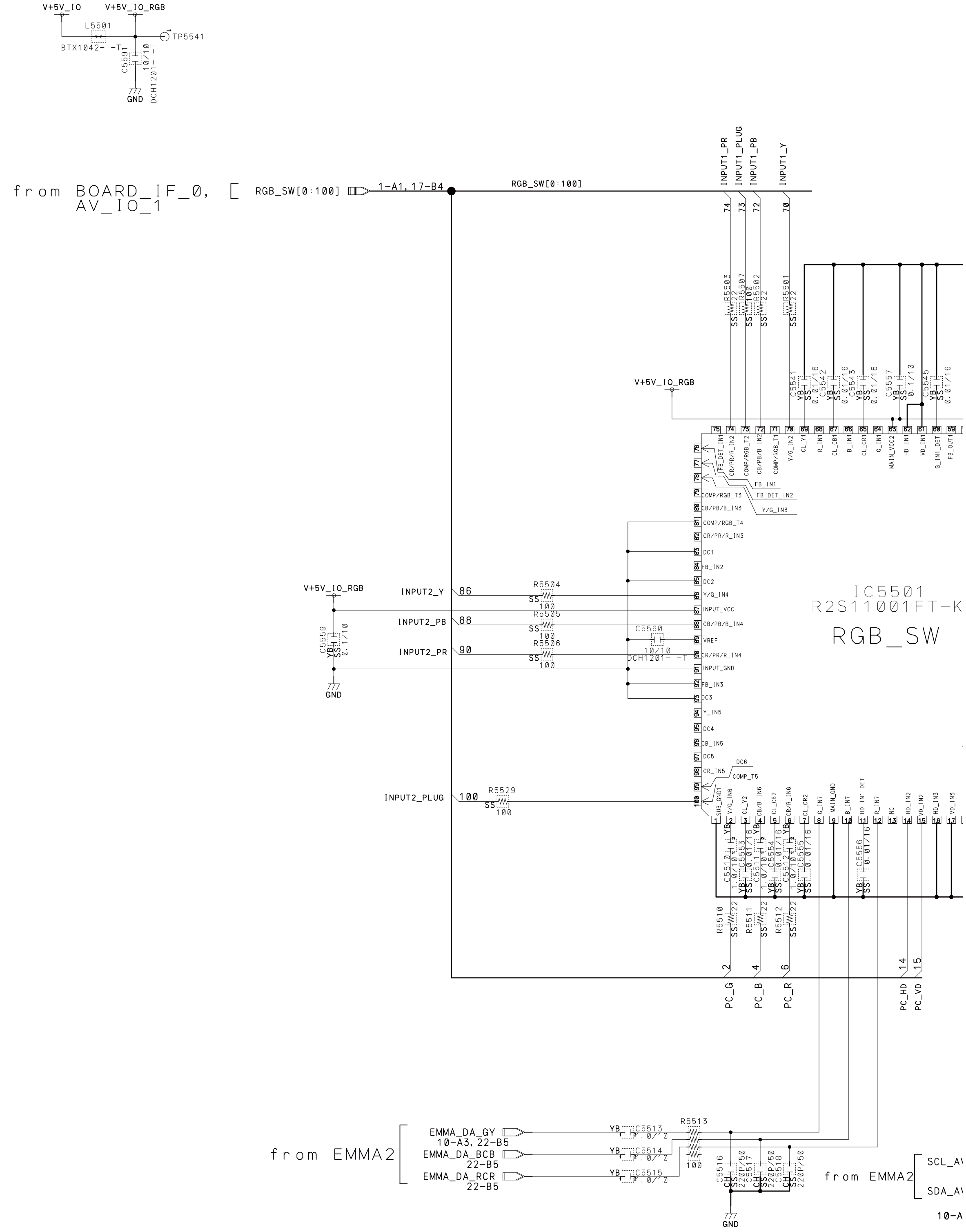
MODEL

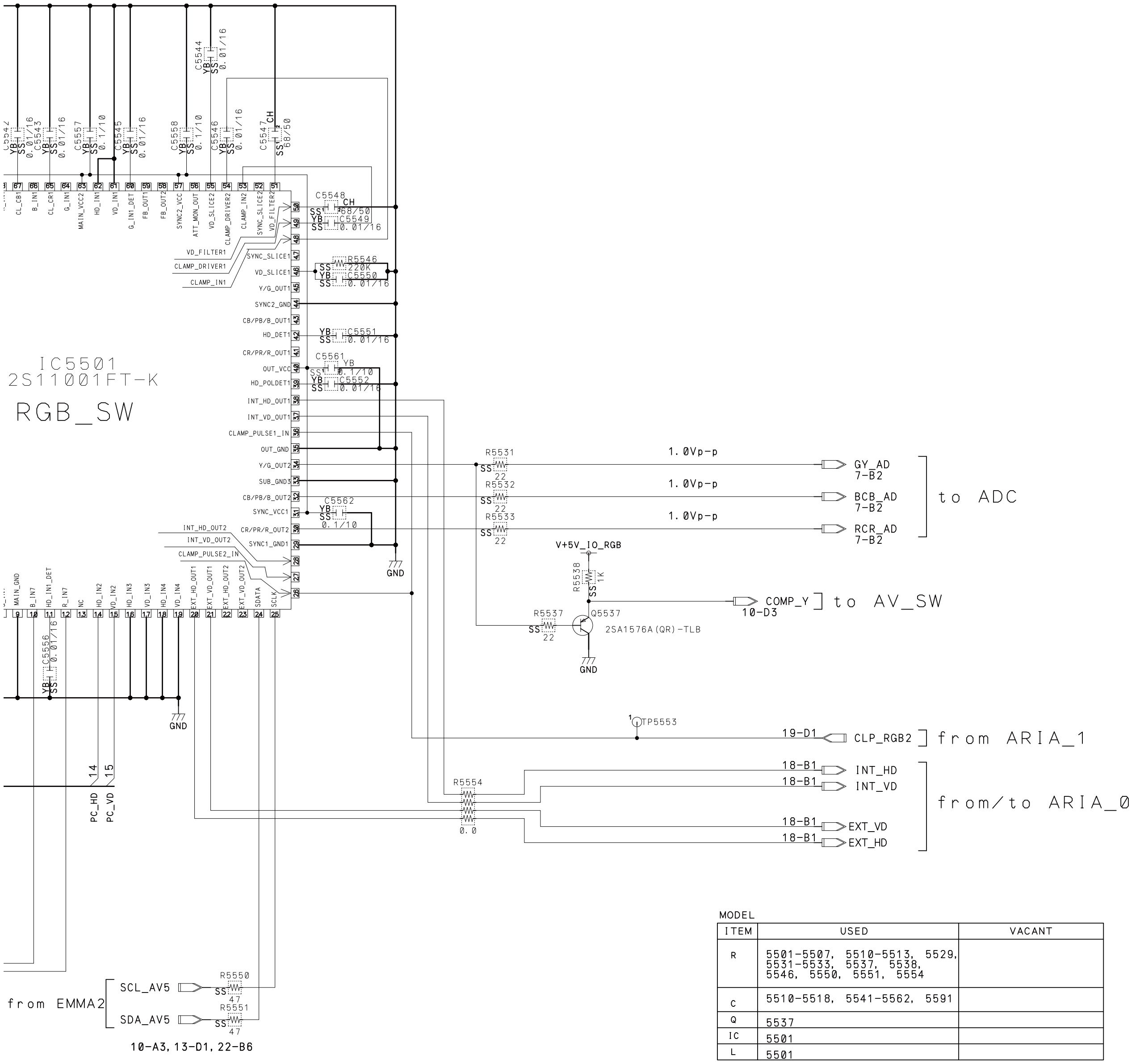
ITEM	USED	VACANT
R	5101-5108, 5110-5117, 5121-5123, 5125, 5131-5138, 5191	
C	5105, 5110-5113, 5131-5143	5113
IC	5101	
L	5101	

MAIN ASSY (MR_IBD) (10/25)
AV_SW BLOCK

AWV2595- ; AWW1431

8.11 MAIN BLOCK ASSY (11/24) [RGB_SW BLOCK]


V+5V_IO
V+5V_IO_RGB
L5501
BTX1042- -T
TP5541
C5591
10/10
DCH1201- -T
GND
from BOARD_IF_0, AV_IO_1
RGB_SW[0:100]
1-A1,17-B4
RGB_SW[0:100]
INPUT1_PR
INPUT1_PLUG
INPUT1_PB
INPUT1_Y
74
73
72
70
R5503
R5507
R5502
R5501
22
100
V+5V_IO_RGB
C5541
C5542
C5543
C5557
C5545
0.01/16
0.1/10
IC5501
R2S11001FT-K
RGB_SW
V+5V_IO_RGB
C5559
0.1/10
INPUT2_Y
86
INPUT2_PB
88
INPUT2_PR
90
R5504
R5505
R5506
100
C5560
10/10
DCH1201- -T
INPUT2_PLUG
100
R5529
GND
C5510
C5553
C5511
C5554
C5512
C5555
C5556
R5510
R5511
R5512
22
2
4
6
14
15
PC_G
PC_B
PC_R
PC_HD
PC_VD
from EMMA2
EMMA_DA_GY
10-A3, 22-B5
EMMA_DA_BCB
22-B5
EMMA_DA_RCR
22-B5
C5513
C5514
C5515
1.0/10
R5513
100
C5516
C5517
C5518
220P/50
GND
from EMMA2
SCL_A
SDA_A
10-A


IC5501
2S11001FT-K
RGB_SW
C5543 0.01/16
C5557 0.1/10
C5545 0.01/16
C5558 0.1/10
C5546 0.01/16
C5544 0.01/16
C5547 CH 68/50
C5548 CH 68/50
C5549 0.01/16
R5546 220K
C5550 0.01/16
C5551 0.01/16
C5561 YB 0.1/10
C5552 0.01/16
C5562 0.1/10
C5556 0.01/16
CL_CB1
B_IN1
CL_CR1
G_IN1
MAIN_VCC2
HD_IN1
VD_IN1
G_IN1_DET
FB_OUT1
FB_OUT2
SYNC2_VCC
ATT_MON_OUT
VD_SLICE2
CLAMP_DRIVER2
CLAMP_IN2
SYNC_SLICE2
VD_FILTER2
VD_FILTER1
CLAMP_DRIVER1
CLAMP_IN1
SYNC_SLICE1
VD_SLICE1
Y/G_OUT1
SYNC2_GND
CB/PB/B_OUT1
HD_DET1
CR/PR/R_OUT1
OUT_VCC
HD_POLDET1
INT_HD_OUT1
INT_VD_OUT1
CLAMP_PULSE1_IN
OUT_GND
Y/G_OUT2
SUB_GND3
CB/PB/B_OUT2
SYNC_VCC1
CR/PR/R_OUT2
SYNC1_GND1
INT_HD_OUT2
INT_VD_OUT2
CLAMP_PULSE2_IN
MAIN_GND
B_IN7
HD_IN1_DET
R_IN7
NC
HD_IN2
VD_IN2
HD_IN3
VD_IN3
HD_IN4
VD_IN4
EXT_HD_OUT1
EXT_VD_OUT1
EXT_HD_OUT2
EXT_VD_OUT2
SDATA
SCLK
GND
R5531 22
R5532 22
R5533 22
1.0Vp-p
1.0Vp-p
1.0Vp-p
GY_AD 7-B2
BCB_AD 7-B2
RCR_AD 7-B2
to ADC
V+5V_IO_RGB
R5538 1K
R5537 22
Q5537
2SA1576A(QR)-TLB
COMP_Y 10-D3
to AV_SW
TP5553
19-D1
CLP_RGB2
from ARIA_1
R5554 0.0
18-B1 INT_HD
18-B1 INT_VD
18-B1 EXT_VD
18-B1 EXT_HD
from/to ARIA_0
14 PC_HD
15 PC_VD
from EMMA2
SCL_AV5
SDA_AV5
R5550 47
R5551 47
10-A3, 13-D1, 22-B6
YB
SS
CH

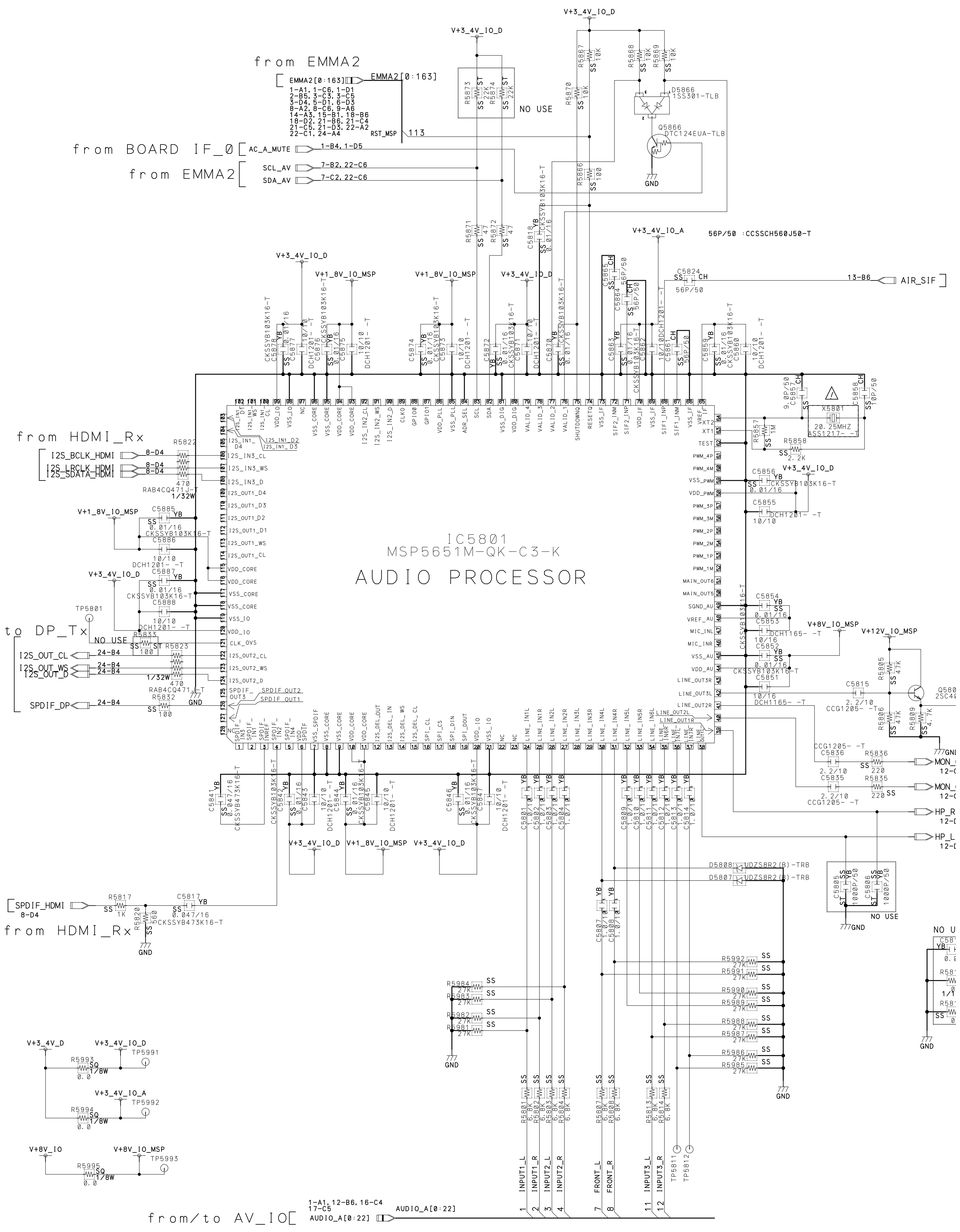
MODEL

ITEM	USED	VACANT
R	5501-5507, 5510-5513, 5529, 5531-5533, 5537, 5538, 5546, 5550, 5551, 5554	
C	5510-5518, 5541-5562, 5591	
Q	5537	
IC	5501	
L	5501	

MAIN ASSY (MR_IBD) (11/25)
RGB_SW BLOCK

AWV2595- ; AWW1431

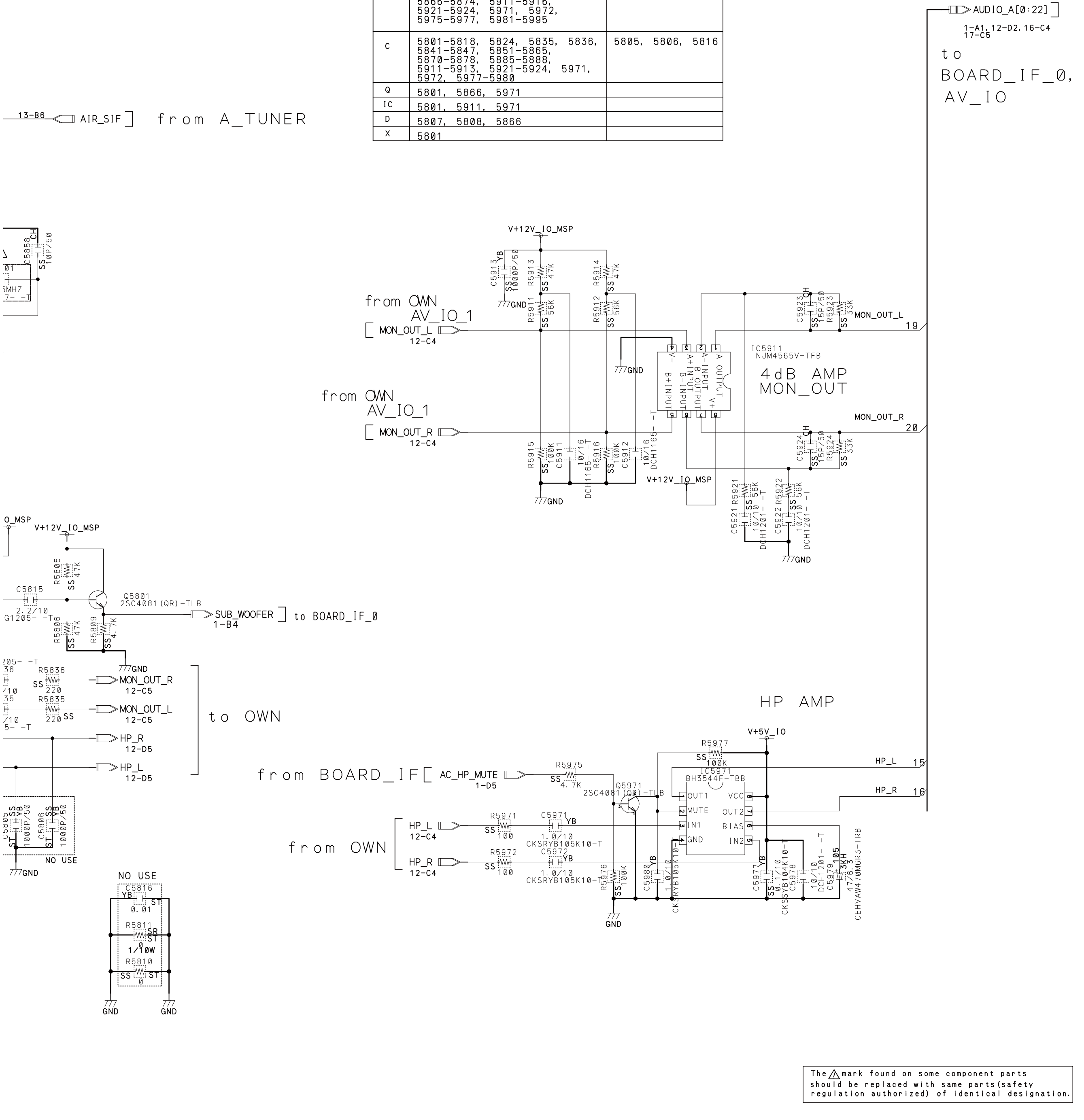
8.12 MAIN BLOCK ASSY (12/24) [MSP BLOCK]



IC5801
MSP5651M-QK-C3-K
AUDIO PROCESSOR
from EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 9-A6
14-A3, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
RST_MSP
113
from BOARD IF_0
AC_A_MUTE
1-B4, 1-D5
from EMMA2
SCL_AV
SDA_AV
7-B2, 22-C6
7-C2, 22-C6
V+3_4V_IO_D
V+1_8V_IO_MSP
V+3_4V_IO_A
NO USE
D5866
1SS301-TLB
Q5866
DTC124EUA-TLB
GND
56P/50 :CCSSCH560J50-T
C5824
13-B6
AIR_SIF
X5801
20.25MHZ
ASS1217- -T
from HDMI_Rx
I2S_BCLK_HDMI
I2S_LRCLK_HDMI
I2S_SDATA_HDMI
8-D4
R5822
RAB4CQ471J-T
1/32W
to DP_Tx
TP5801
I2S_OUT_CL
I2S_OUT_WS
I2S_OUT_D
24-B4
SPDIF_DP
R5823
R5832
R5833
SPDIF_HDMI
8-D4
R5817
C5817
R5820
from HDMI_Rx
V+8V_IO_MSP
V+12V_IO_MSP
Q5805
MON_
HP_R
HP_L
D5808 UDZS8R2(B)-TRB
D5807 UDZS8R2(B)-TRB
C5805
C5806
NO USE
INPUT1_L
INPUT1_R
INPUT2_L
INPUT2_R
FRONT_L
FRONT_R
INPUT3_L
INPUT3_R
TP5811
TP5812
from/to AV_IO
1-A1, 12-B6, 16-C4
17-C5
AUDIO_A[0:22]
V+3_4V_D
V+3_4V_IO_D
TP5991
R5993
V+3_4V_IO_A
TP5992
R5994
V+8V_IO
V+8V_IO_MSP
TP5993
R5995
1/8W
0.0

MODEL

ITEM	USED	VACANT
R	5801-5811, 5813, 5814, 5817, 5820, 5822, 5823, 5832, 5833, 5835, 5836, 5857, 5858, 5866-5874, 5911-5916, 5921-5924, 5971, 5972, 5975-5977, 5981-5995	5810, 5811, 5833, 5873, 5874
C	5801-5818, 5824, 5835, 5836, 5841-5847, 5851-5865, 5870-5878, 5885-5888, 5911-5913, 5921-5924, 5971, 5972, 5977-5980	5805, 5806, 5816
Q	5801, 5866, 5971	
IC	5801, 5911, 5971	
D	5807, 5808, 5866	
X	5801	

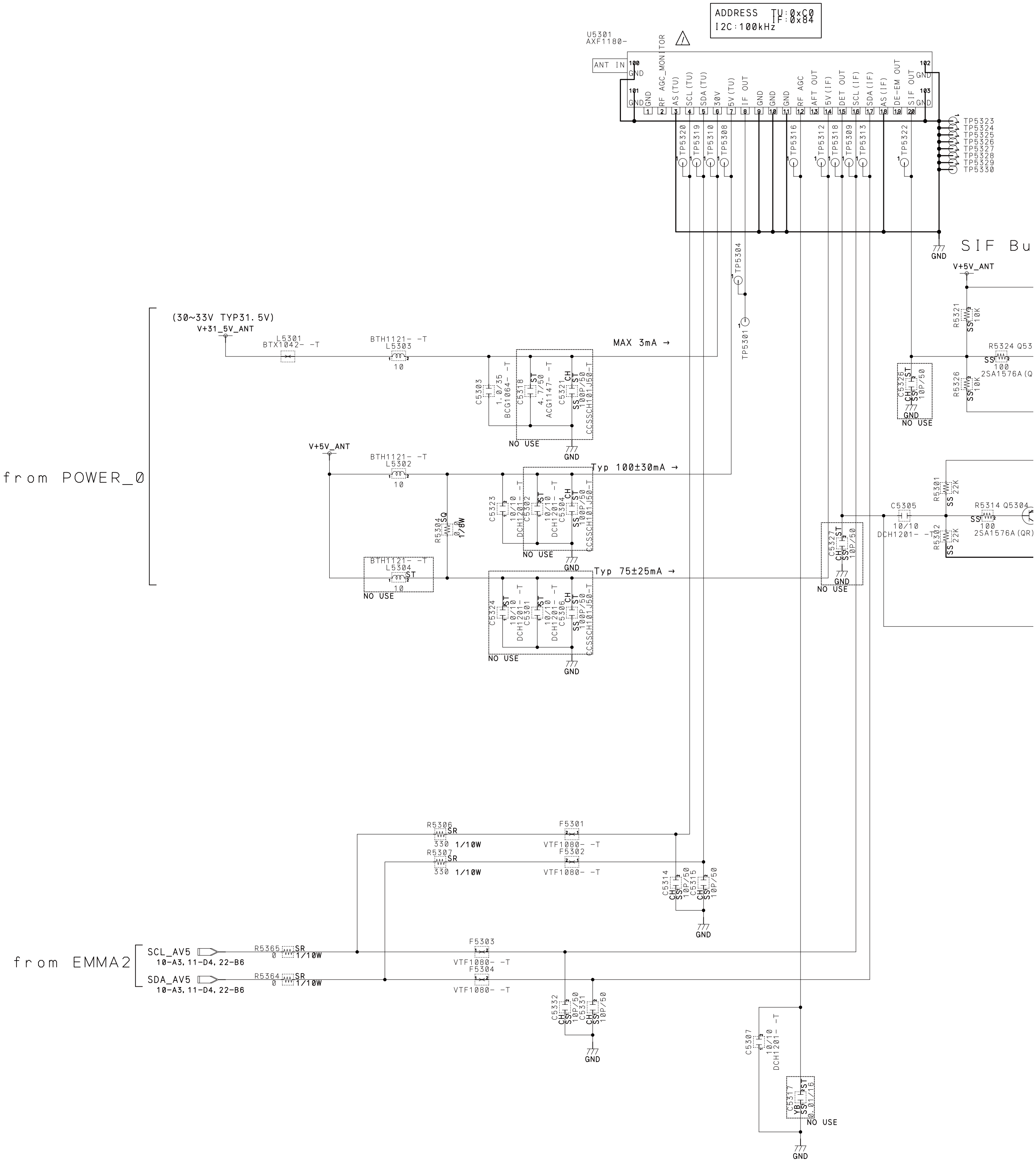

13-B6
AIR_SIF
from A_TUNER
AUDIO_A[0:22]
1-A1,12-D2,16-C4
17-C5
to
BOARD_IF_0,
AV_IO
C5858
CH
SS
10P/50
MHZ
V+12V_IO_MSP
C5913
YB
SS
1000P/50
GND
R5913
SS
47K
R5914
SS
47K
R5911
SS
56K
R5912
SS
56K
from OWN
AV_IO_1
MON_OUT_L
12-C4
from OWN
AV_IO_1
MON_OUT_R
12-C4
R5915
SS
100K
C5911
10/16
DCH1165- -T
R5916
SS
100K
C5912
10/16
DCH1165- -T
GND
IC5911
NJM4565V-TFB
V-
A+INPUT
A-INPUT
A OUTPUT
B+INPUT
B-INPUT
B OUTPUT
V+
4dB AMP
MON_OUT
C5923
CH
SS
15P/50
R5923
SS
33K
MON_OUT_L
19
C5924
CH
SS
15P/50
R5924
SS
33K
MON_OUT_R
20
V+12V_IO_MSP
C5921
R5921
SS
56K
10/10
DCH1201- -T
C5922
R5922
SS
56K
10/10
DCH1201- -T
GND
O_MSP
V+12V_IO_MSP
R5805
SS
47K
C5815
2.2/10
G1205- -T6
Q5801
2SC4081(QR)-TLB
SUB_WOOFER
1-B4
to BOARD_IF_0
R5806
SS
47K
R5809
SS
4.7K
GND
205- -T
36
R5836
SS
220
MON_OUT_R
12-C5
/10
35
R5835
220
SS
MON_OUT_L
12-C5
/10
5- -T
HP_R
12-D5
HP_L
12-D5
to OWN
C5805
SS
YB
ST
1000P/50
C5806
SS
YB
ST
1000P/50
NO USE
GND
NO USE
C5816
YB
ST
0.01
R5811
SR
ST
0
1/10W
R5810
SS
ST
0
GND
GND
HP AMP
V+5V_IO
R5977
SS
100K
IC5971
BH3544F-TBB
OUT1
MUTE
IN1
GND
VCC
OUT2
BIAS
IN2
HP_L
15
HP_R
16
from BOARD_IF
AC_HP_MUTE
1-D5
R5975
SS
4.7K
Q5971
2SC4081(QR)-TLB
from OWN
HP_L
12-C4
HP_R
12-C4
R5971
SS
100
C5971
YB
1.0/10
CKSRYB105K10-T
R5972
SS
100
C5972
YB
1.0/10
CKSRYB105K10-T
R5976
SS
100K
GND
C5980
YB
1.0/10
CKSRYB105K10-T
C5977
YB
SS
0.1/10
CKSSYB104K10-T
C5978
10/10
DCH1201- -T
C5979
105
3KH
47/6.3
CEHVAW470M6R3-TRB

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

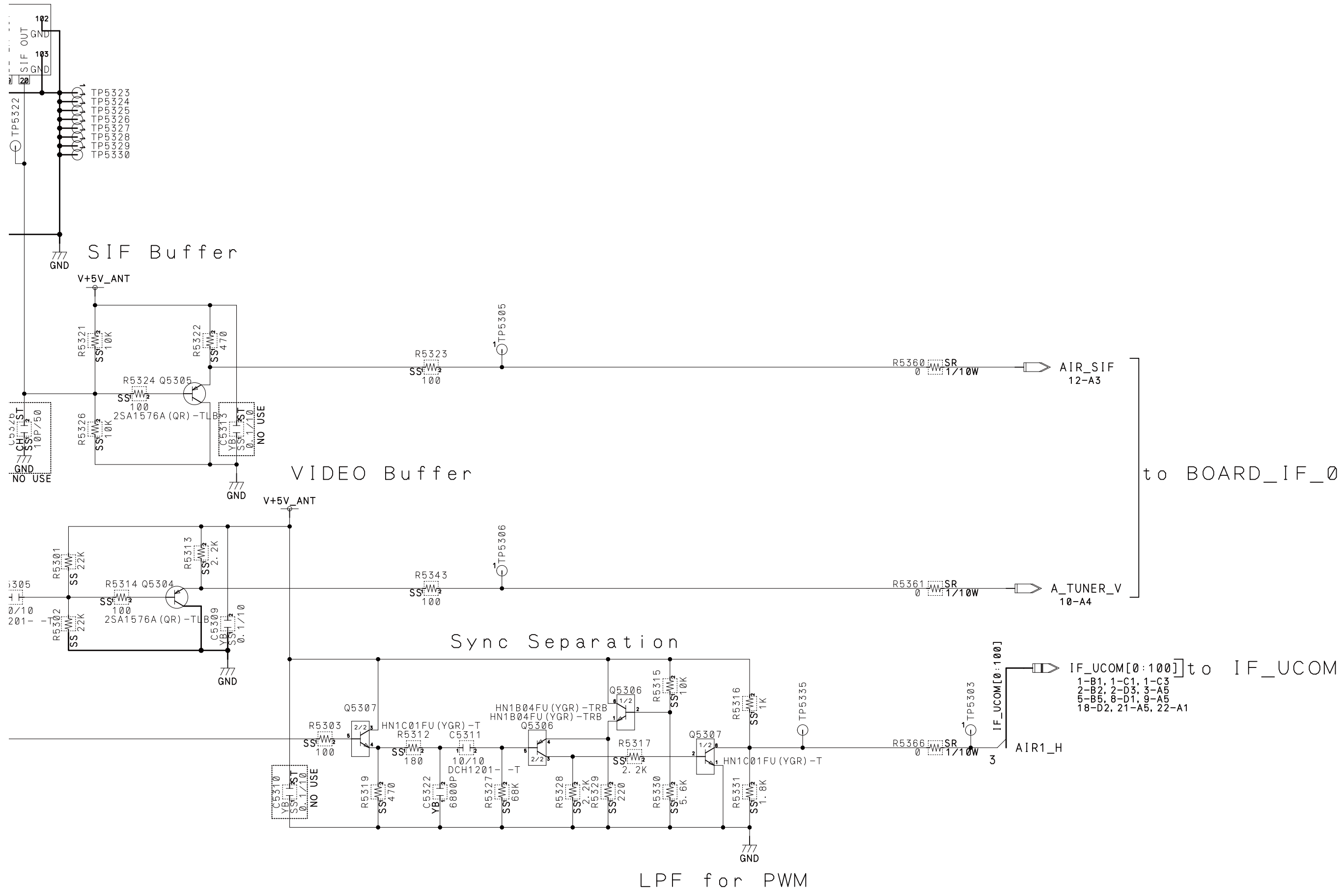
MAIN ASSY (MR_IBD) (12/25)
MSP BLOCK

AWV2595- ; AWW1431

8.13 MAIN BLOCK ASSY (13/24) [A_TUNER BLOCK]


ADDRESS TU:0xC0
IF:0x84
I2C:100kHz
U5301
AXF1180-
ANT IN
100 GND
101 GND
102 GND
103 GND
1 GND
2 RF AGC_MONITOR
3 AS(TU)
4 SCL(TU)
5 SDA(TU)
6 30V
7 5V(TU)
8 IF OUT
9 GND
10 GND
11 GND
12 RF AGC
13 AFT OUT
14 5V(IF)
15 DET OUT
16 SCL(IF)
17 SDA(IF)
18 AS(IF)
19 DE-EM OUT
20 SIF OUT
TP5320
TP5319
TP5310
TP5308
TP5316
TP5312
TP5318
TP5309
TP5313
TP5322
TP5323
TP5324
TP5325
TP5326
TP5327
TP5328
TP5329
TP5330
GND
SIF Bu
V+5V_ANT
R5321 SS 10K
R5324 Q53
SS 100
2SA1576A(Q
R5326 SS 10K
C5326 CH SS 10P/50
GND
NO USE
TP5304
TP5301
(30~33V TYP31.5V)
V+31_5V_ANT
L5301 BTX1042- -T
BTH1121- -T
L5303 10
MAX 3mA →
C5303 1.0/35 BCG1064- -T
C5318 4.7/50 ACG1147- -T ST
C5321 SS CH ST 100P/50 CCSSCH101J50-T
NO USE
GND
from POWER_0
V+5V_ANT
BTH1121- -T
L5302 10
Typ 100±30mA →
R5304 SQ 0 1/8W
C5323 10/10 DCH1201- -T
C5302 ST 10/10 DCH1201- -T
C5304 SS CH ST 100P/50 CCSSCH101J50-T
NO USE
GND
BTH1121- -T
L5304 ST 10
NO USE
Typ 75±25mA →
C5324 ST 10/10 DCH1201- -T
C5301 ST 10/10 DCH1201- -T
C5306 SS CH ST 100P/50 CCSSCH101J50-T
NO USE
GND
C5327 CH SS ST 10P/50
GND
NO USE
C5305 10/10 DCH1201- -T
R5301 SS 22K
R5302 SS 22K
R5314 Q5304
SS 100
2SA1576A(QR)
R5306 SR 330 1/10W
F5301 VTF1080- -T
R5307 SR 330 1/10W
F5302 VTF1080- -T
C5314 CH SS 10P/50
C5315 CH SS 10P/50
GND
from EMMA2
SCL_AV5
10-A3, 11-D4, 22-B6
SDA_AV5
10-A3, 11-D4, 22-B6
R5365 SR 0 1/10W
R5364 SR 0 1/10W
F5303 VTF1080- -T
F5304 VTF1080- -T
C5332 CH SS 10P/50
C5331 CH SS 10P/50
GND
C5307 10/10 DCH1201- -T
C5317 YB SS ST 0.01/16
NO USE
GND

The ⚠ mark found on some co
with same parts (safety regu
designation.


SIF OUT
GND
102
103
20
TP5322
TP5323
TP5324
TP5325
TP5326
TP5327
TP5328
TP5329
TP5330
GND
SIF Buffer
V+5V_ANT
R5321 SS 10K
R5322 SS 470
R5324 SS 100
Q5305
2SA1576A(QR)-TLB
R5326 SS 10K
C5326 CH SS 10P/50 ST
GND
NO USE
C5313 YB SS 0.1/10 ST
NO USE
GND
R5323 SS 100
TP5305
R5360 0 SR 1/10W
AIR_SIF
12-A3
VIDEO Buffer
to BOARD_IF_0
V+5V_ANT
R5301 SS 22K
R5302 SS 22K
R5313 SS 2.2K
R5314 SS 100
Q5304
2SA1576A(QR)-TLB
C5309 YB SS 0.1/10
GND
R5343 SS 100
TP5306
R5361 0 SR 1/10W
A_TUNER_V
10-A4
Sync Separation
Q5307
R5303 SS 100
HN1C01FU(YGR)-T
R5312 SS 180
C5311 10/10
DCH1201- -T
Q5306
HN1B04FU(YGR)-TRB
HN1B04FU(YGR)-TRB
Q5306
R5315 SS 10K
R5316 SS 1K
Q5307
HN1C01FU(YGR)-T
R5317 SS 2.2K
TP5335
C5310 YB SS 0.1/10 ST
NO USE
R5319 SS 470
C5322 YB 6800P
R5327 SS 68K
R5328 SS 2.2K
R5329 SS 220
R5330 SS 5.6K
R5331 SS 1.8K
GND
LPF for PWM
TP5303
R5366 0 SR 1/10W
IF_UCOM[0:100]
AIR1_H
3
IF_UCOM[0:100]
to IF_UCOM
1-B1, 1-C1, 1-C3
2-B2, 2-D3, 3-A5
5-B5, 8-D1, 9-A5
18-D2, 21-A5, 22-A1

MODEL

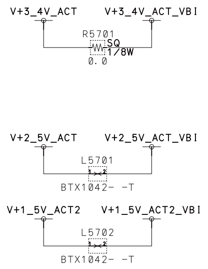
ITEM	USED	VACANT
R	5301-5304, 5306, 5307, 5312-5317, 5319, 5321-5324, 5326-5331, 5343, 5360, 5361, 5364-5366	
C	5301-5307, 5309-5311, 5313-5315, 5317, 5318, 5321-5324, 5326, 5327, 5331, 5332	5301, 5302, 5304, 5306, 5310, 5313, 5317, 5318, 5321, 5324, 5326, 5327
Q	5304-5307	
F	5301-5304	
L	5301-5304	5304
U	5301	

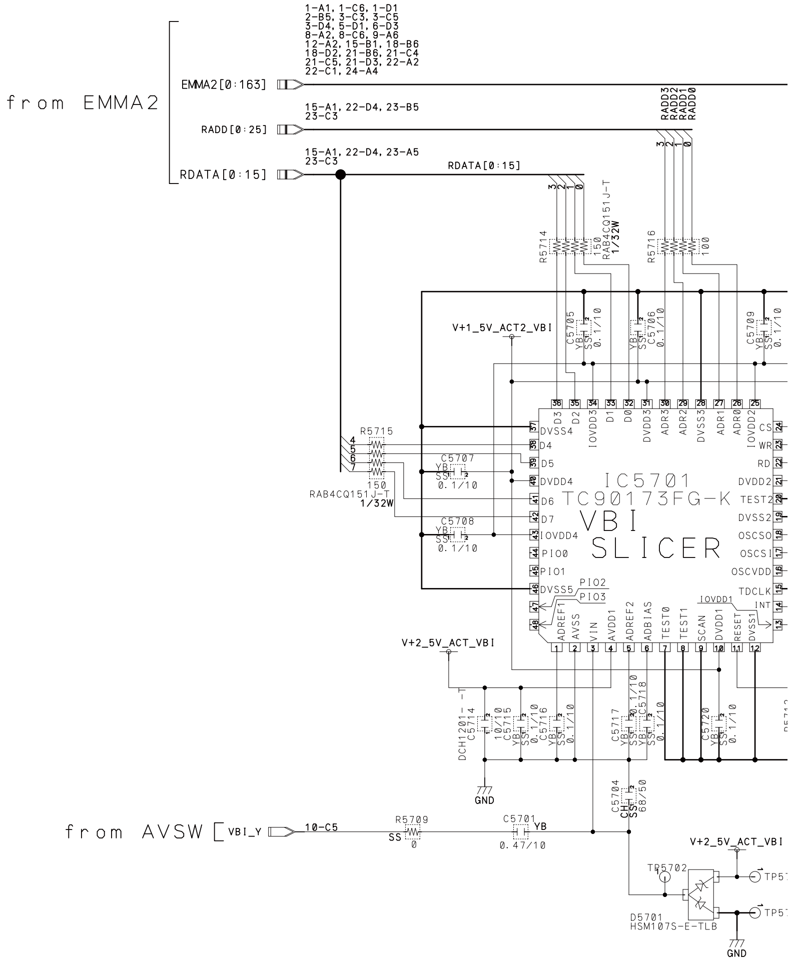
mark found on some component parts should be replaced
me parts (safety regulation authorized) of identical
tion.

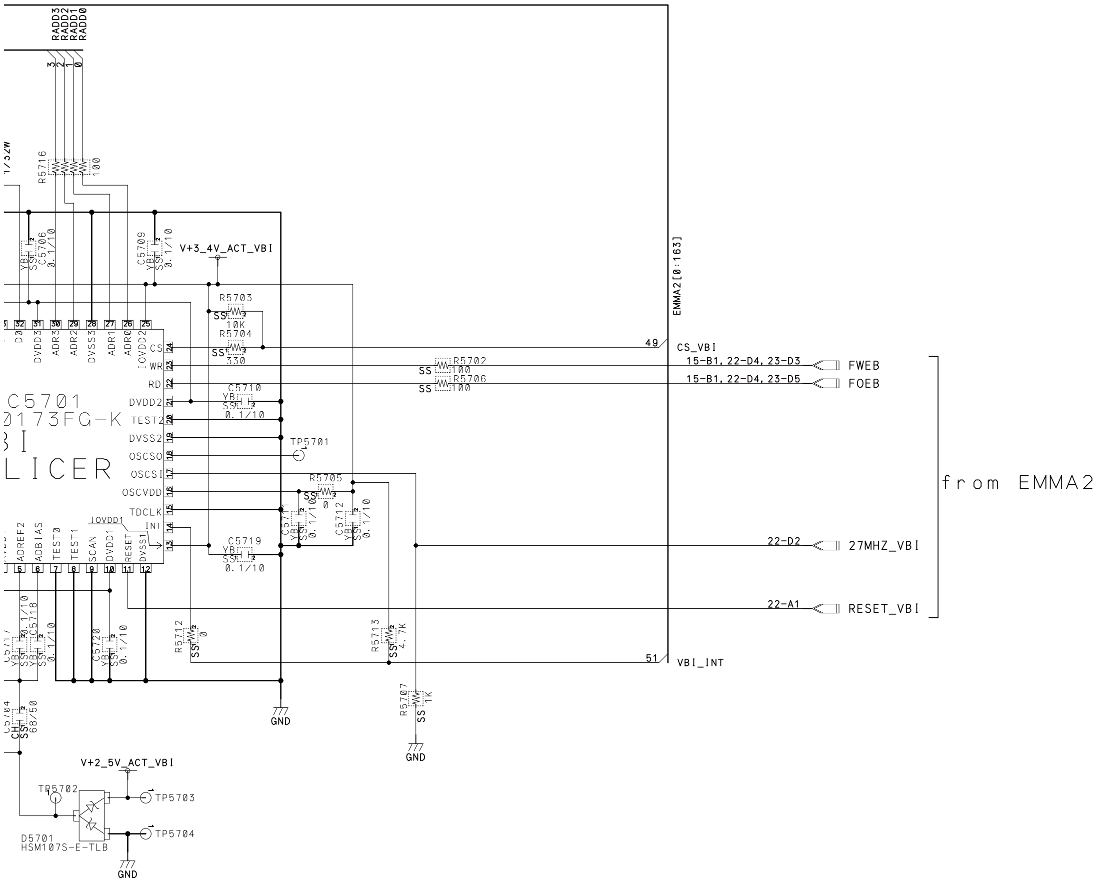
MAIN ASSY (MR_IBD) (13/25)
A_TUNER BLOCK

AWV2595- ; AWW1431

8.14 MAIN BLOCK ASSY (14/24) [VBI_SLICER BLOCK]


V+3_4V_ACT
V+3_4V_ACT_VBI
R5701
SQ
1/8W
0.0
V+2_5V_ACT
V+2_5V_ACT_VBI
L5701
BTX1042- -T
V+1_5V_ACT2
V+1_5V_ACT2_VBI
L5702
BTX1042- -T


from EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 9-A6
12-A2, 15-B1, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
RADD[0:25]
15-A1, 22-D4, 23-B5
23-C3
RDATA[0:15]
15-A1, 22-D4, 23-A5
23-C3
RDATA[0:15]
RADD3
RADD2
RADD1
RADD0
R5714
150
RAB4CQ151J-T
1/32W
R5716
100
V+1_5V_ACT2_VBI
C5705
YB
SS
0.1/10
C5706
YB
SS
0.1/10
C5709
YB
SS
0.1/10
R5715
150
RAB4CQ151J-T
1/32W
C5707
YB
SS
0.1/10
C5708
YB
SS
0.1/10
IC5701
TC90173FG-K
VBI
SLICER
D3
D2
IOVDD3
D1
D0
DVDD3
ADR3
ADR2
DVSS3
ADR1
ADR0
IOVDD2
DVSS4
D4
D5
DVDD4
D6
D7
IOVDD4
PIO0
PIO1
DVSS5
PIO2
PIO3
CS
WR
RD
DVDD2
TEST2
DVSS2
OSCSO
OSCSI
OSCVDD
TDCLK
INT
IOVDD1
ADREF1
AVSS
VIN
AVDD1
ADREF2
ADBIAS
TEST0
TEST1
SCAN
DVDD1
RESET
DVSS1
V+2_5V_ACT_VBI
DCH1201- -T
C5714
10/10
C5715
YB
SS
0.1/10
C5716
YB
SS
0.1/10
C5717
YB
SS
0.1/10
C5718
YB
SS
0.1/10
C5720
YB
SS
0.1/10
GND
C5704
CH
SS
68/50
from AVSW
VBI_Y
10-C5
R5709
SS
0
C5701
YB
0.47/10
V+2_5V_ACT_VBI
TP5702
D5701
HSM107S-E-TLB
GND


RADD3
RADD2
RADD1
RADD0
R5716
100
C5706
0.1/10
C5709
0.1/10
V+3_4V_ACT_VBI
R5703
10K
R5704
330
C5710
0.1/10
C5701
0173FG-K
LICER
CS
WR
RD
DVDD2
TEST2
DVSS2
OSCSO
OSCSI
OSCVDD
TDCLK
INT
DVSS1
RESET
DVDD1
IOVDD1
SCAN
TEST1
TEST0
ADBIAS
ADREF2
D0
DVDD3
ADR3
ADR2
DVSS3
ADR1
ADR0
IOVDD2
TP5701
R5705
0
C5711
0.1/10
C5712
0.1/10
C5719
0.1/10
R5702
100
R5706
100
EMMA2[0:163]
49
CS_VBI
15-B1, 22-D4, 23-D3
FWEB
15-B1, 22-D4, 23-D5
FOEB
from EMMA2
22-D2
27MHZ_VBI
22-A1
RESET_VBI
51
VBI_INT
R5712
0
R5713
4.7K
R5707
1K
C5717
C5718
0.1/10
C5720
0.1/10
C5704
68/50
GND
V+2_5V_ACT_VBI
TP5702
TP5703
TP5704
D5701
HSM107S-E-TLB

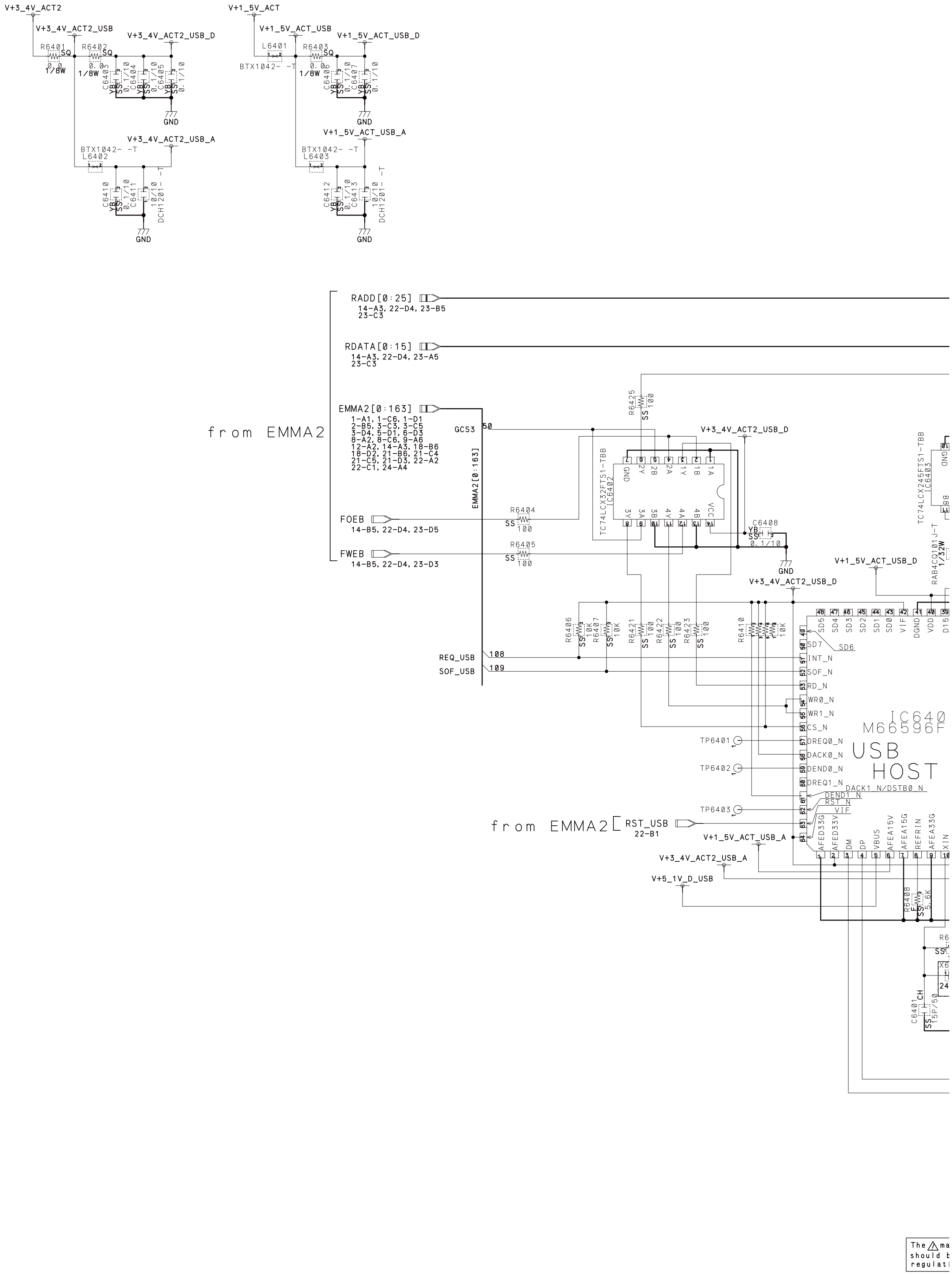
MODEL

ITEM	USED	VACANT
R	5701-5707, 5709, 5712-5716	
C	5701, 5704-5712, 5714-5720	
IC	5701	
D	5701	
L	5701, 5702	

MAIN ASSY (MR_IBD) (14/25)
VBI_SLICER BLOCK

AWV2595- : AWW1431

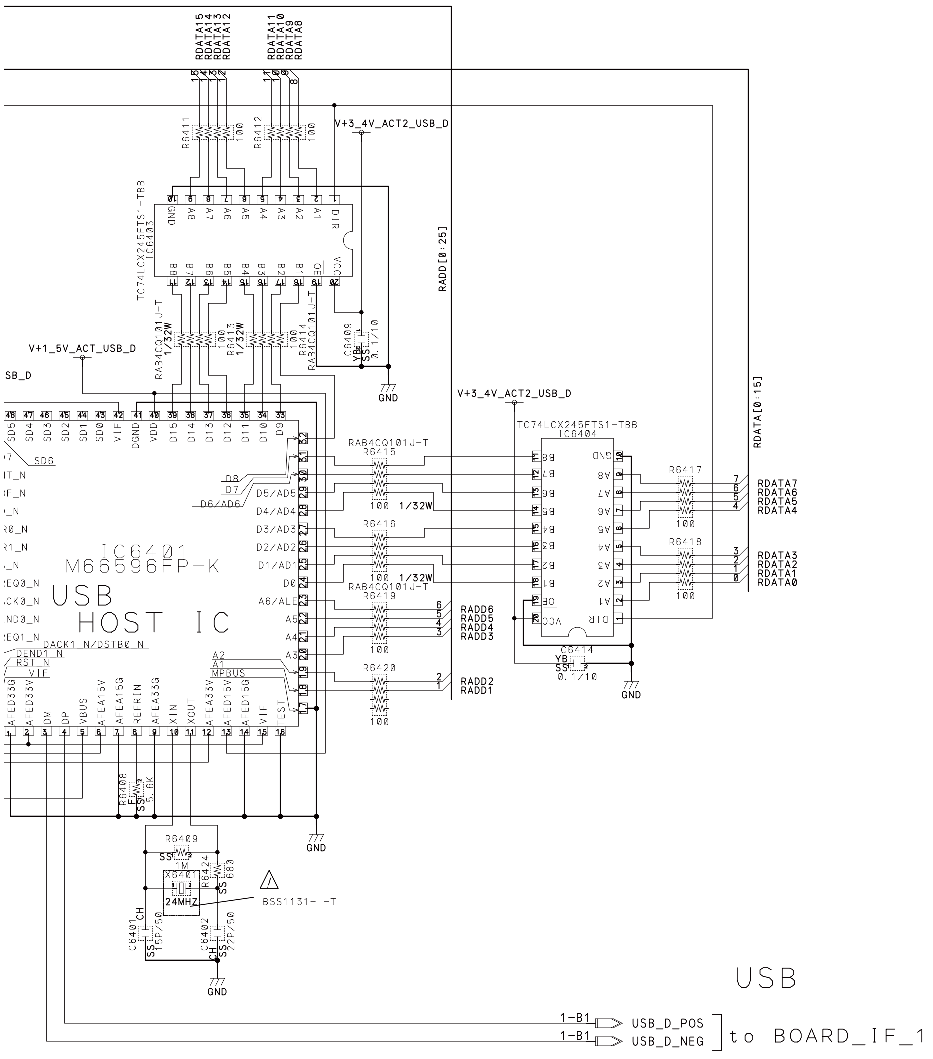
8.15 MAIN BLOCK ASSY (15/24) [USB BLOCK]


V+3_4V_ACT2
V+3_4V_ACT2_USB
V+3_4V_ACT2_USB_D
R6401
R6402
SQ
1/8W
0.0
C6403
C6404
C6405
YB
SS
0.1/10
GND
V+3_4V_ACT2_USB_A
BTX1042- -T
L6402
C6410
C6411
DCH1201- -T
10/10
V+1_5V_ACT
V+1_5V_ACT_USB
V+1_5V_ACT_USB_D
L6401
R6403
C6406
C6407
V+1_5V_ACT_USB_A
L6403
C6412
C6413
RADD[0:25]
14-A3, 22-D4, 23-B5
23-C3
RDATA[0:15]
14-A3, 22-D4, 23-A5
23-C3
from EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 9-A6
12-A2, 14-A3, 18-B6
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
GCS3
50
FOEB
14-B5, 22-D4, 23-D5
FWEB
14-B5, 22-D4, 23-D3
R6404
R6405
100
R6425
TC74LCX32FTS1-TBB
IC6402
GND 2Y 2B 2A 1Y 1B 1A
3Y 3A 3B 4Y 4A 4B VCC
C6408
V+3_4V_ACT2_USB_D
TC74LCX245FTS1-TBB
IC6403
RAB4CQ101J-T
1/32W
V+1_5V_ACT_USB_D
R6406
R6407
10K
R6421
R6422
R6423
R6410
REQ_USB
SOF_USB
108
109
SD7
INT_N
SOF_N
RD_N
WR0_N
WR1_N
CS_N
DREQ0_N
DACK0_N
DEND0_N
DREQ1_N
DACK1_N/DSTB0_N
DEND1_N
RST_N
VIF
SD5 SD4 SD3 SD2 SD1 SD0 VIF DGND VDD D15
SD6
TP6401
TP6402
TP6403
IC640
M66596F
USB
HOST
from EMMA2
RST_USB
22-B1
V+1_5V_ACT_USB_A
V+3_4V_ACT2_USB_A
V+5_1V_D_USB
AFED33G AFED33V DM DP VBUS AFEA15V AFEA15G REFRIN AFEA33G XIN
R6408
5.6K
C6401
CH
15P/50
24

The ⚠ ma
should b
regulati

MODEL

ITEM	USED	VACANT
R	6401-6425	
C	6401-6414	
IC	6401-6404	
L	6401-6403	
X	6401	

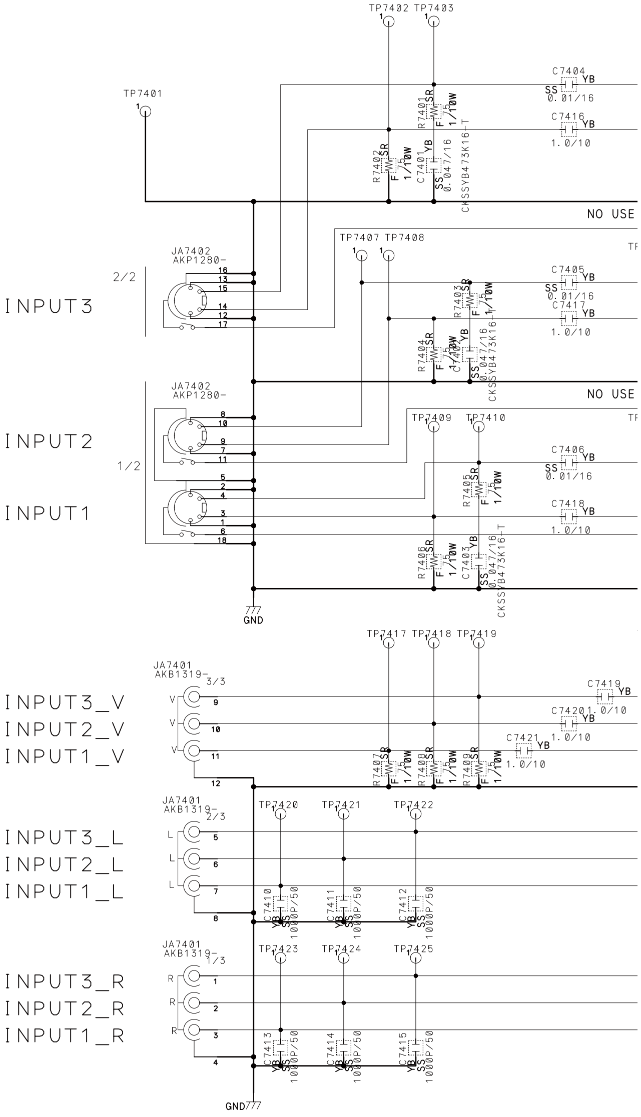

RDATA15
RDATA14
RDATA13
RDATA12
RDATA11
RDATA10
RDATA9
RDATA8
R6411
R6412
100
V+3_4V_ACT2_USB_D
TC74LCX245FTS1-TBB
IC6403
RADD[0:25]
RAB4CQ101J-T
1/32W
R6413
R6414
C6409
YB
SS
0.1/10
GND
V+1_5V_ACT_USB_D
SB_D
IC6401
M66596FP-K
USB
HOST IC
V+3_4V_ACT2_USB_D
TC74LCX245FTS1-TBB
IC6404
R6415
R6416
R6417
R6418
R6419
R6420
RDATA[0:15]
RDATA7
RDATA6
RDATA5
RDATA4
RDATA3
RDATA2
RDATA1
RDATA0
RADD6
RADD5
RADD4
RADD3
RADD2
RADD1
C6414
YB
SS
0.1/10
GND
R6408
5.6K
R6409
1M
X6401
24MHZ
R6424
680
BSS1131- -T
C6401
CH
SS
15P/50
C6402
CH
SS
22P/50
GND
USB
1-B1
USB_D_POS
USB_D_NEG
to BOARD_IF_1

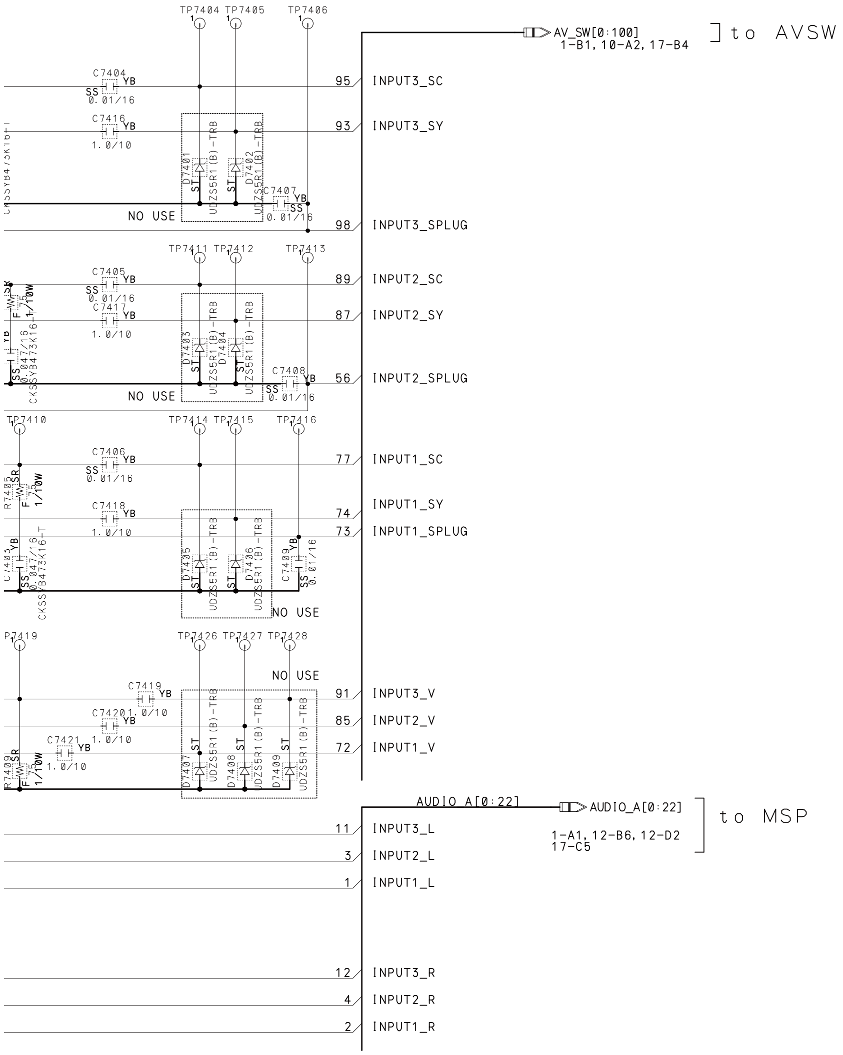
MAIN ASSY (MR_IBD) (15/25)
USB BLOCK

AWV2595- ; AWW1431

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

8.16 MAIN BLOCK ASSY (16/24) [AV_IO_0 BLOCK]


TP7401
TP7402
TP7403
C7404
SS
YB
0.01/16
C7416
YB
1.0/10
R7401
SR
F
1/10W
R7402
SR
F
1/10W
C7401
YB
SS
0.047/16
CKSSYB473K16-T
NO USE
TP7407
TP7408
JA7402
AKP1280-
2/2
INPUT3
16
13
15
14
12
17
C7405
YB
SS
0.01/16
C7417
YB
1.0/10
R7403
SR
F
1/10W
R7404
SR
F
1/10W
C7402
YB
SS
0.047/16
CKSSYB473K16-T
NO USE
JA7402
AKP1280-
INPUT2
8
10
9
7
11
1/2
5
2
4
INPUT1
3
1
6
18
TP7409
TP7410
C7406
YB
SS
0.01/16
R7405
SR
F
1/10W
C7418
YB
1.0/10
R7406
SR
F
1/10W
C7403
YB
SS
0.047/16
CKSSYB473K16-T
GND
TP7417
TP7418
TP7419
JA7401
AKB1319-
3/3
INPUT3_V
INPUT2_V
INPUT1_V
V
9
10
11
12
C7419
YB
C7420
1.0/10
YB
1.0/10
C7421
YB
1.0/10
R7407
SR
F
1/10W
R7408
SR
F
1/10W
R7409
SR
F
1/10W
JA7401
AKB1319-
2/3
TP7420
TP7421
TP7422
INPUT3_L
INPUT2_L
INPUT1_L
L
5
6
7
8
C7410
YB
SS
1000P/50
C7411
YB
SS
1000P/50
C7412
YB
SS
1000P/50
JA7401
AKB1319-
1/3
TP7423
TP7424
TP7425
INPUT3_R
INPUT2_R
INPUT1_R
R
1
2
3
4
C7413
YB
SS
1000P/50
C7414
YB
SS
1000P/50
C7415
YB
SS
1000P/50
GND



TP7404
TP7405
TP7406
AV_SW[0:100]
1-B1, 10-A2, 17-B4
to AVSW
C7404
SS
YB
0.01/16
C7416
YB
1.0/10
D7401
D7402
ST
UDZS5R1(B)-TRB
C7407
YB
SS
0.01/16
NO USE
95
INPUT3_SC
93
INPUT3_SY
98
INPUT3_SPLUG
TP7411
TP7412
TP7413
C7405
C7417
D7403
D7404
C7408
0.047/16
CKSSYB473K16-T
1/10W
89
INPUT2_SC
87
INPUT2_SY
56
INPUT2_SPLUG
TP7410
TP7414
TP7415
TP7416
C7406
C7418
R7405
C7403
D7405
D7406
C7409
77
INPUT1_SC
74
INPUT1_SY
73
INPUT1_SPLUG
P7419
TP7426
TP7427
TP7428
C7419
C7420
C7421
R7409
D7407
D7408
D7409
1.0/10
91
INPUT3_V
85
INPUT2_V
72
INPUT1_V
AUDIO A[0:22]
AUDIO_A[0:22]
1-A1, 12-B6, 12-D2
17-C5
to MSP
11
INPUT3_L
3
INPUT2_L
1
INPUT1_L
12
INPUT3_R
4
INPUT2_R
2
INPUT1_R

MODEL

ITEM	USED	VACANT
R	7401-7409	
C	7401-7421	
D	7401-7409	7401-7409
JA	7401, 7402	

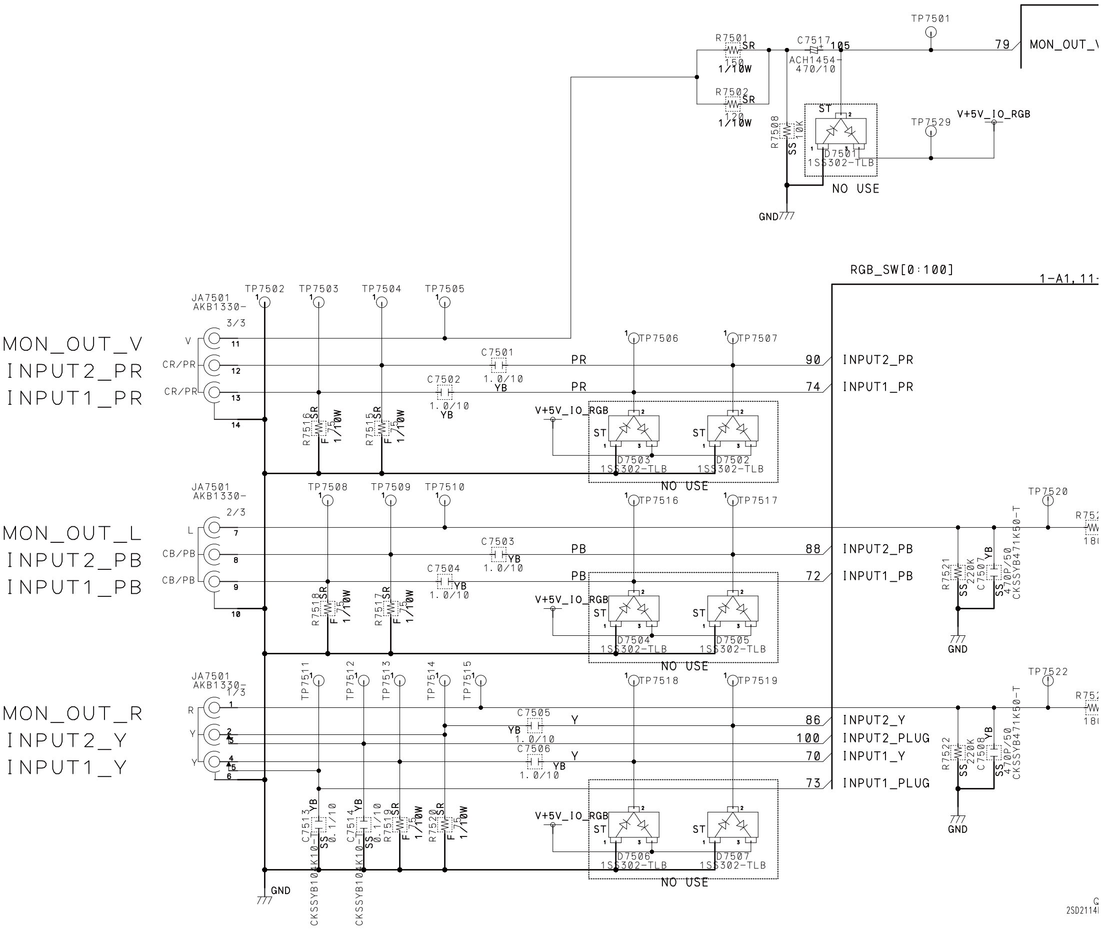
MAIN ASSY (MR_IBD) (16/25)
AV_IO_0 BLOCK

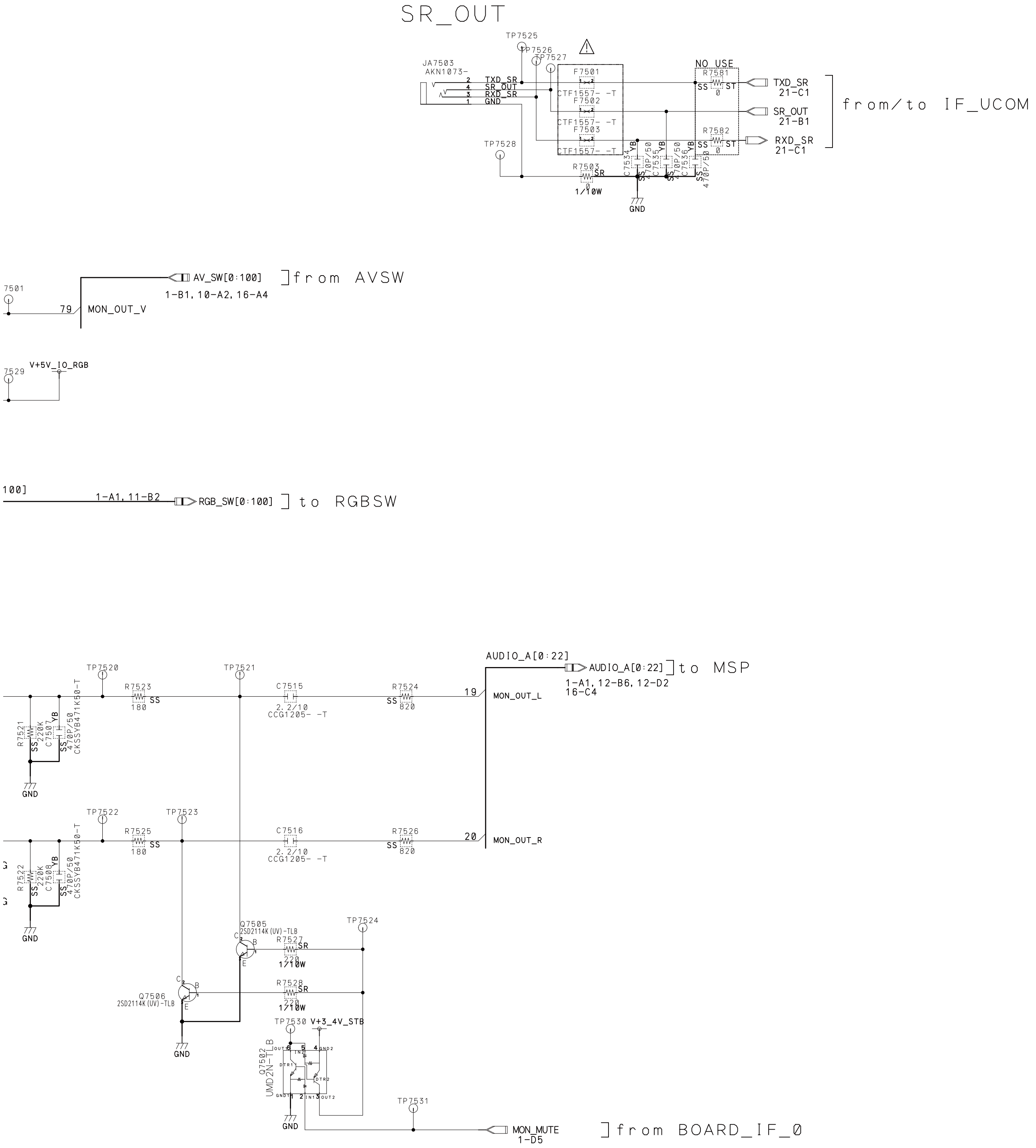
AWV2595- : AWW1431

8.17 MAIN BLOCK ASSY (17/24) [AV_IO_1 BLOCK]

MODEL

ITEM	USED	VACANT
R	7501-7503, 7508, 7515-7528, 7581, 7582	7581, 7582
C	7501-7508, 7513-7517, 7534-7536	
Q	7502, 7505, 7506	
F	7501-7503	
D	7501-7507	7501-7507
JA	7501, 7503	


R7501 SR 150 1/10W
R7502 SR 120 1/10W
C7517 105 ACH1454- 470/10
TP7501
79 MON_OUT_V
R7508 SS 10K
ST
D7501 1SS302-TLB
NO USE
TP7529
V+5V_IO_RGB
GND
RGB_SW[0:100]
1-A1, 11-
JA7501 AKB1330- 3/3
TP7502 TP7503 TP7504 TP7505
MON_OUT_V
INPUT2_PR
INPUT1_PR
V CR/PR CR/PR
11 12 13 14
C7501 1.0/10 YB
C7502 1.0/10 YB
PR
PR
TP7506 TP7507
90 INPUT2_PR
74 INPUT1_PR
R7516 SR F 75 1/10W
R7515 SR F 75 1/10W
V+5V_IO_RGB
ST ST
D7503 1SS302-TLB
D7502 1SS302-TLB
NO USE
JA7501 AKB1330- 2/3
TP7508 TP7509 TP7510
MON_OUT_L
INPUT2_PB
INPUT1_PB
L CB/PB CB/PB
7 8 9 10
C7503 1.0/10 YB
C7504 1.0/10 YB
PB
PB
TP7516 TP7517
88 INPUT2_PB
72 INPUT1_PB
R7518 SR F 75 1/10W
R7517 SR F 75 1/10W
V+5V_IO_RGB
ST ST
D7504 1SS302-TLB
D7505 1SS302-TLB
NO USE
TP7520
R752
180
R7521 SS 220K
C7507 YB SS 470P/50 CKSSYB471K50-T
GND
JA7501 AKB1330- 1/3
TP7511 TP7512 TP7513 TP7514 TP7515
MON_OUT_R
INPUT2_Y
INPUT1_Y
R Y Y
1 2 3 4 5 6
C7505 YB 1.0/10
C7506 1.0/10 YB
Y
Y
TP7518 TP7519
86 INPUT2_Y
100 INPUT2_PLUG
70 INPUT1_Y
73 INPUT1_PLUG
TP7522
R752
180
R7522 SS 220K
C7508 YB SS 470P/50 CKSSYB471K50-T
GND
C7513 YB SS 0.1/10 CKSSYB104K10-T
C7514 YB SS 0.1/10 CKSSYB104K10-T
R7519 SR F 75 1/10W
R7520 SR F 75 1/10W
V+5V_IO_RGB
ST ST
D7506 1SS302-TLB
D7507 1SS302-TLB
NO USE
GND
Q
2SD2114


SR_OUT
TP7525
TP7526
TP7527
TP7528
JA7503
AKN1073-
2 TXD_SR
4 SR_OUT
3 RXD_SR
1 GND
F7501
CTF1557- -T
F7502
CTF1557- -T
F7503
CTF1557- -T
R7503
SR
0
1/10W
C7534
470P/50
C7535
470P/50
C7536
470P/50
YB
SS
GND
NO USE
R7581
SS 0 ST
R7582
SS 0 ST
TXD_SR
21-C1
SR_OUT
21-B1
RXD_SR
21-C1
from/to IF_UCOM
7501
79
MON_OUT_V
AV_SW[0:100]
1-B1, 10-A2, 16-A4
from AVSW
7529
V+5V_IO_RGB
100]
1-A1, 11-B2
RGB_SW[0:100]
to RGBSW
AUDIO_A[0:22]
AUDIO_A[0:22]
1-A1, 12-B6, 12-D2
16-C4
to MSP
TP7520
TP7521
R7523
SS
180
C7515
2.2/10
CCG1205- -T
R7524
SS
820
19
MON_OUT_L
R7521
SS 220K
C7507
YB
SS 470P/50
CKSSYB471K50-T
GND
TP7522
TP7523
R7525
SS
180
C7516
2.2/10
CCG1205- -T
R7526
SS
820
20
MON_OUT_R
R7522
SS 220K
C7508
YB
SS 470P/50
CKSSYB471K50-T
GND
Q7505
2SD2114K(UV)-TLB
C B E
TP7524
R7527
SR
220
1/10W
Q7506
2SD2114K(UV)-TLB
C B E
R7528
SR
220
1/10W
GND
TP7530
V+3_4V_STB
Q7502
UMD2N-TLB
OUT1 6
5
4 GND2
DTR1
DTR2
GND1 1
2 IN1
3 OUT2
GND
TP7531
MON_MUTE
1-D5
from BOARD_IF_0

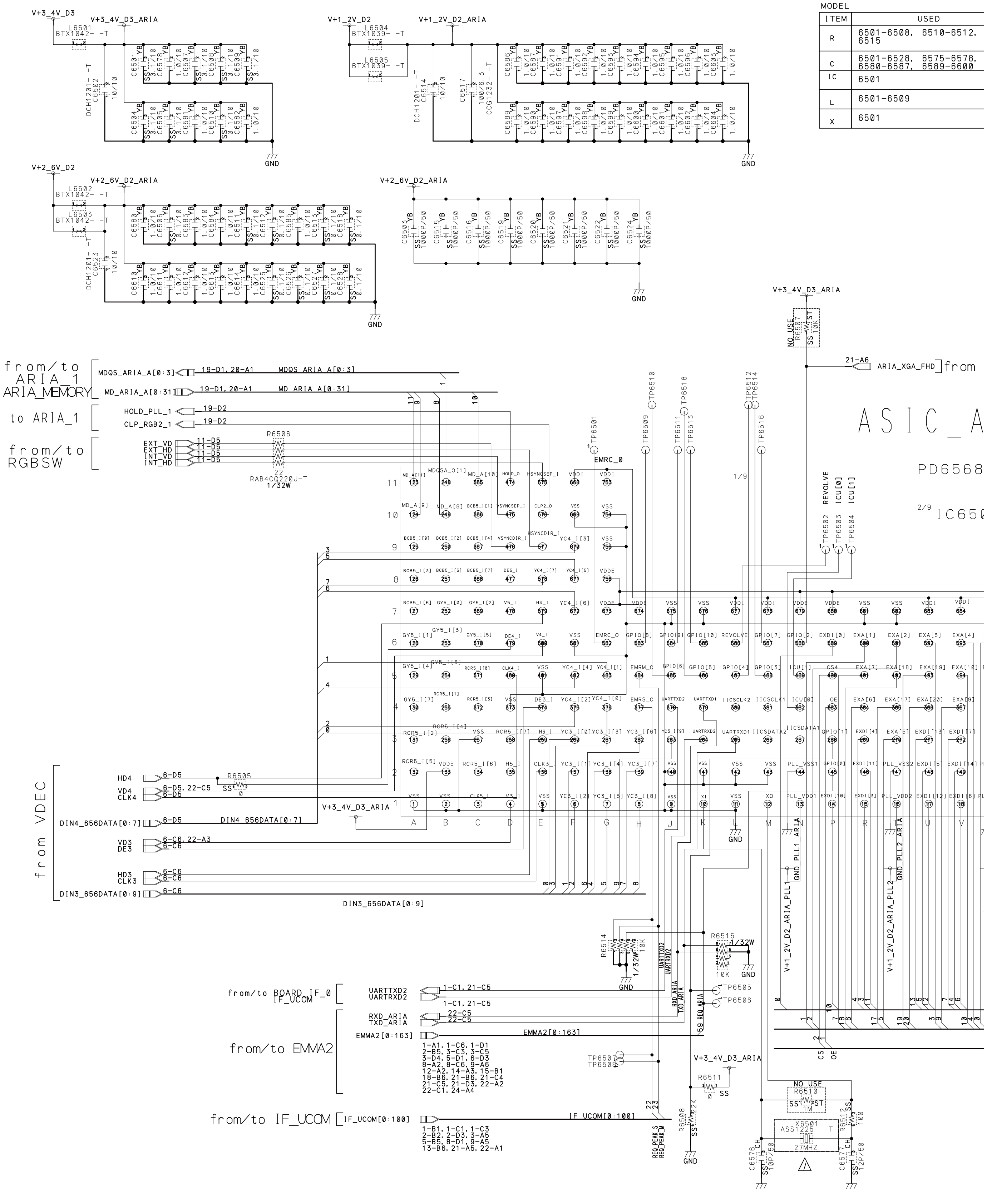
MAIN ASSY (MR_IBD) (17/25)
AV_IO_1 BLOCK

AWV2595- : AWW1431

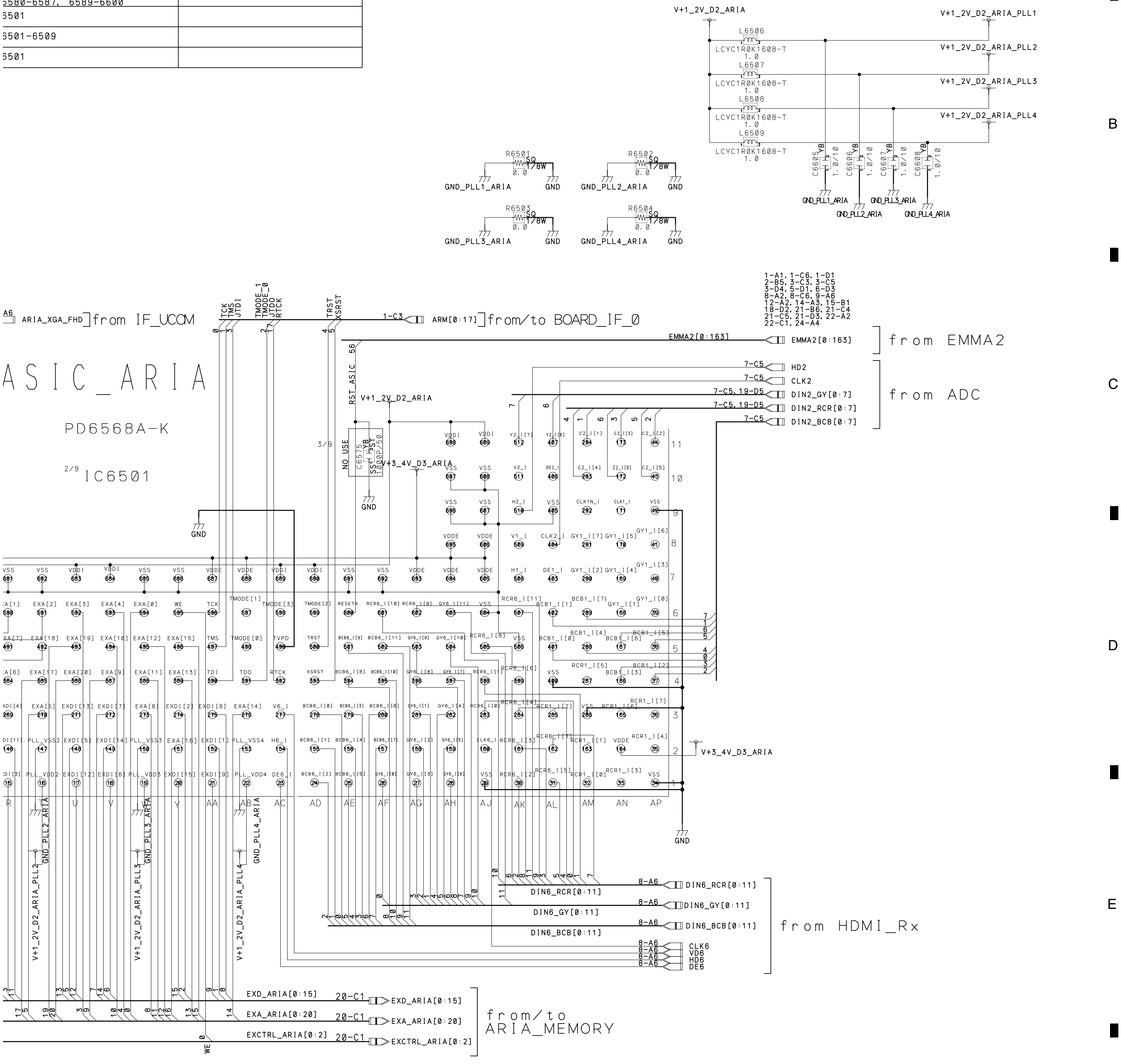
8.18 MAIN BLOCK ASSY (18/24) [ARIA_0 BLOCK]

MODEL

ITEM	USED
R	6501-6508, 6510-6512, 6515
C	6501-6528, 6575-6578, 6580-6587, 6589-6600
IC	6501
L	6501-6509
X	6501


V+3_4V_D3
V+3_4V_D3_ARIA
L6501 BTX1042- -T
DCH1201- -T C6502 10/10
V+1_2V_D2
V+1_2V_D2_ARIA
L6504 BTX1039- -T
L6505 BTX1039- -T
DCH1201- -T C6514 10/10
C6517 100/6.3 CCG1232- -T
V+2_6V_D2
V+2_6V_D2_ARIA
L6502 BTX1042- -T
L6503 BTX1042- -T
DCH1201- -T C6523 10/10
C6503 C6515 C6516 C6519 C6520 C6521 C6522 C6524 1000P/50
GND
NO_USE R6507 SS 10K
21-A6 ARIA_XGA_FHD from
from/to ARIA_1 ARIA_MEMORY
MDQS_ARIA_A[0:3] 19-D1, 20-A1 MDQS ARIA A[0:3]
MD_ARIA_A[0:31] 19-D1, 20-A1 MD ARIA A[0:31]
to ARIA_1
HOLD_PLL_1 19-D2
CLP_RGB2_1 19-D2
from/to RGBSW
EXT_VD 11-D5
EXT_HD 11-D5
INT_VD 11-D5
INT_HD 11-D5
R6506 22 RAB4CQ220J-T 1/32W
TP6501 TP6509 TP6510 TP6511 TP6513 TP6518 TP6512 TP6514 TP6516
EMRC_0
ASIC_A
PD6568
IC650
1/9
2/9
REVOLVE ICU[0] ICU[1]
TP6502 TP6503 TP6504
from VDEC
HD4 6-D5
VD4 6-D5, 22-C5
CLK4 6-D5
R6505 SS 0
DIN4_656DATA[0:7] 6-D5 DIN4 656DATA[0:7]
VD3 6-C6, 22-A3
DE3 6-C6
HD3 6-C6
CLK3 6-C6
DIN3_656DATA[0:9] 6-C6 DIN3_656DATA[0:9]
V+3_4V_D3_ARIA
GND_PLL1_ARIA
GND_PLL2_ARIA
V+1_2V_D2_ARIA_PLL1
V+1_2V_D2_ARIA_PLL2
R6514 1/32W 10K
R6515 1/32W 10K
UARTTXD2 UARTRXD2
RXD_ARIA TXD_ARIA
59 REQ_ARIA
TP6505 TP6506
from/to BOARD_IF_0 IF_UCOM
UARTTXD2 1-C1, 21-C5
UARTRXD2 1-C1, 21-C5
RXD_ARIA 22-C5
TXD_ARIA 22-C5
from/to EMMA2
EMMA2[0:163] EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 9-A6
12-A2, 14-A3, 15-B1
18-B6, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
TP6507 TP6508
V+3_4V_D3_ARIA
R6511 0 SS
from/to IF_UCOM
IF_UCOM[0:100] IF UCOM[0:100]
1-B1, 1-C1, 1-C3
2-B2, 2-D3, 3-A5
5-B5, 8-D1, 9-A5
13-B6, 21-A5, 22-A1
REQ_PEAK_S REQ_PEAK_M
R6508 SS 22K
NO_USE R6510 SS 1M ST
X6501 ASS1225- -T 27MHZ
R6512 SS 100
C6576 CH 10P/50
C6577 CH 12P/50
CS OE

USED	VACANT
6501-6508, 6510-6512, 6514, 6515	6507, 6510
6501-6528, 6575-6578, 6580-6587, 6589-6600	6575
6501	
6501-6509	
6501	

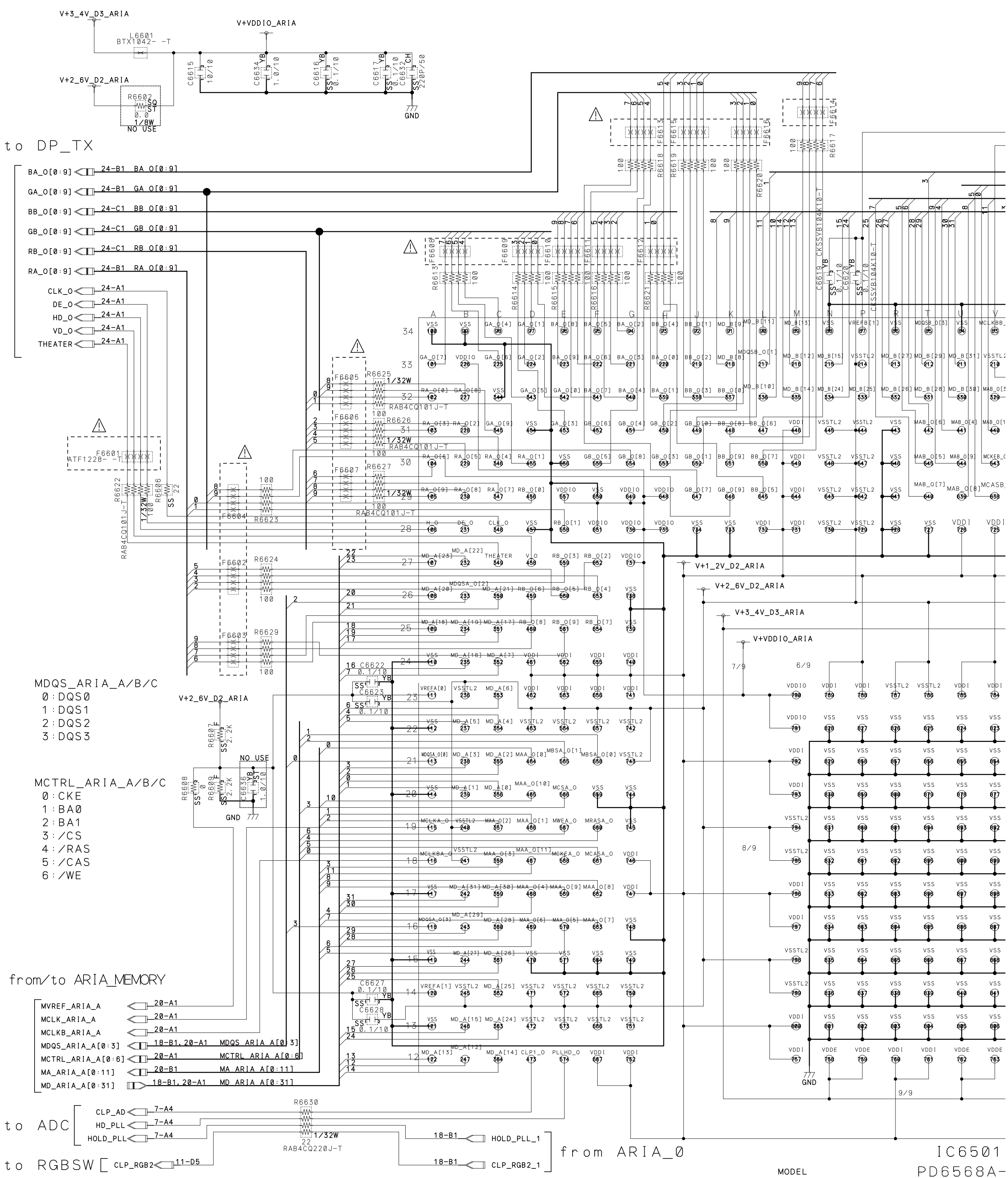


V+1_2V_D2_ARIA
V+1_2V_D2_ARIA_PLL1
V+1_2V_D2_ARIA_PLL2
V+1_2V_D2_ARIA_PLL3
V+1_2V_D2_ARIA_PLL4
L6506 LCYC1R0K1608-T 1.0
L6507 LCYC1R0K1608-T 1.0
L6508 LCYC1R0K1608-T 1.0
L6509 LCYC1R0K1608-T 1.0
C6605 C6606 C6607 C6608 YB 1.0/10
GND_PLL1_ARIA GND_PLL2_ARIA GND_PLL3_ARIA GND_PLL4_ARIA
R6501 SQ 1/8W 0.0
R6502 SQ 1/8W 0.0
R6503 SQ 1/8W 0.0
R6504 SQ 1/8W 0.0
GND
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 9-A6
12-A2, 14-A3, 15-B1
18-D2, 21-B6, 21-C4
21-C5, 21-D3, 22-A2
22-C1, 24-A4
A6 ARIA_XGA_FHD from IF_UCOM
TCK TMS JTDI TMODE_1 TMODE_0 JTDO RTCK TRST XSRST
1-C3 ARM[0:17] from/to BOARD_IF_0
EMMA2[0:163] from EMMA2
7-C5 HD2
7-C5 CLK2
7-C5, 19-D5 DIN2_GY[0:7]
7-C5, 19-D5 DIN2_RCR[0:7]
7-C5 DIN2_BCB[0:7]
from ADC
ASIC_ARIA
PD6568A-K
2/9 IC6501
3/9
RST_ASIC
NO_USE
C6575 SSL YB 1000P/50
V+3_4V_D3_ARIA
8-A6 DIN6_RCR[0:11]
8-A6 DIN6_GY[0:11]
8-A6 DIN6_BCB[0:11]
8-A6 CLK6
8-A6 VD6
8-A6 HD6
8-A6 DE6
from HDMI_Rx
EXD_ARIA[0:15] 20-C1
EXA_ARIA[0:20] 20-C1
EXCTRL_ARIA[0:2] 20-C1
from/to ARIA_MEMORY
WE
GND_PLL2_ARIA GND_PLL3_ARIA GND_PLL4_ARIA
V+1_2V_D2_ARIA_PLL2 V+1_2V_D2_ARIA_PLL3 V+1_2V_D2_ARIA_PLL4
R U V W Y AA AB AC AD AE AF AG AH AJ AK AL AM AN AP

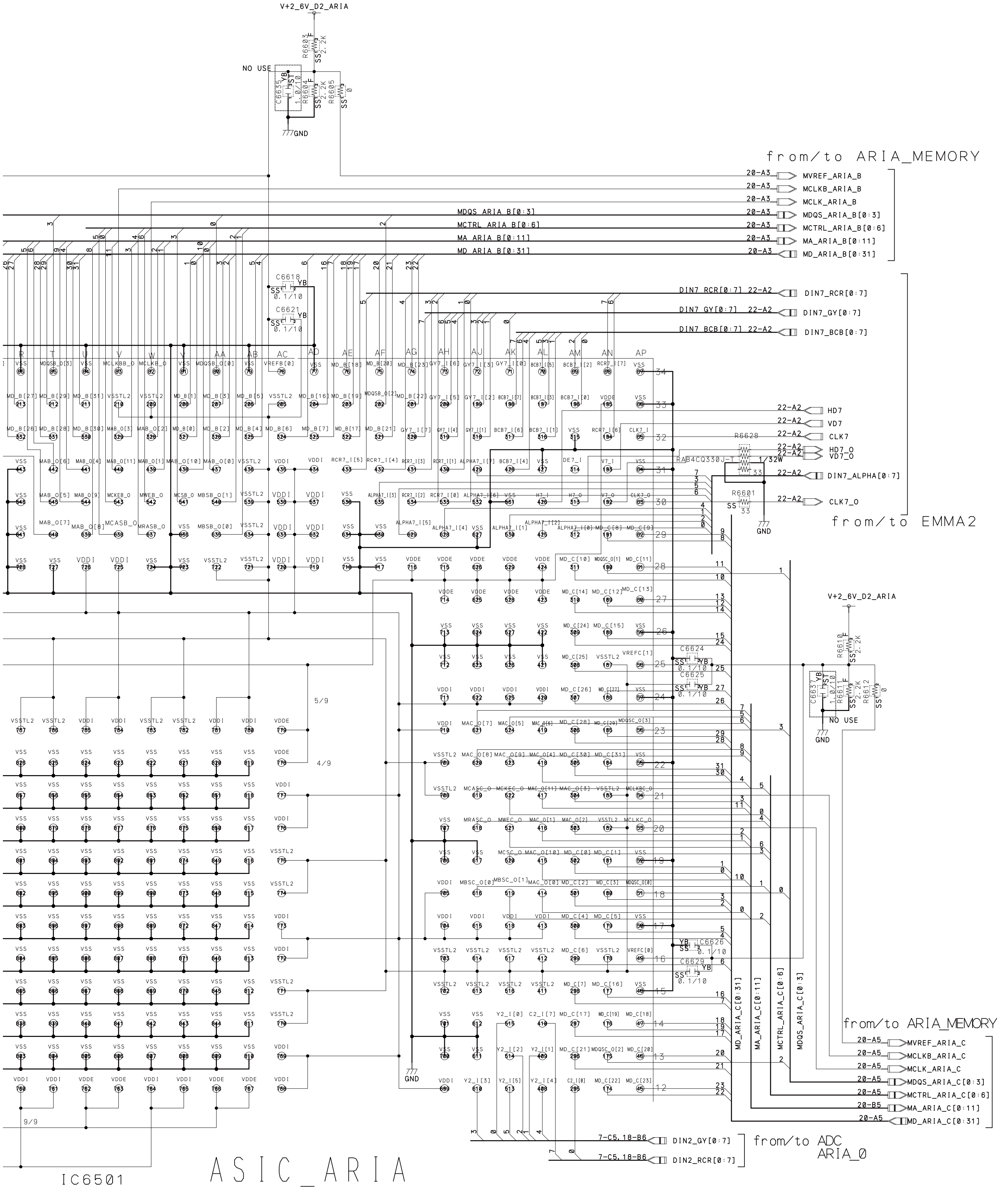
MAIN ASSY (MR_IBD) (18/25)
ARIA_0 BLOCK

AWV2595- ; AWW1431

8.19 MAIN BLOCK ASSY (19/24) [ARIA_1 BLOCK]


A
B
C
D
E
F
V+3_4V_D3_ARIA
L6601
BTX1042- -T
V+VDDIO_ARIA
V+2_6V_D2_ARIA
R6602
SQ
ST
0.0
1/8W
NO USE
C6615 10/10
C6634 YB 1.0/10
C6616 YB 0.1/10
C6617 YB 0.1/10
C6632 CH 220P/50
GND
to DP_TX
BA_O[0:9] 24-B1 BA O[0:9]
GA_O[0:9] 24-B1 GA O[0:9]
BB_O[0:9] 24-C1 BB O[0:9]
GB_O[0:9] 24-C1 GB O[0:9]
RB_O[0:9] 24-C1 RB O[0:9]
RA_O[0:9] 24-B1 RA O[0:9]
CLK_O 24-A1
DE_O 24-A1
HD_O 24-A1
VD_O 24-A1
THEATER 24-A1
F6601
ATF1228- -T
R6622
R6606
RAB4CQ101J-T
F6602
F6603
F6604
F6605
F6606
F6607
F6608
F6609
F6610
F6611
F6612
F6613
F6614
F6615
F6616
R6613
R6614
R6615
R6616
R6617
R6618
R6619
R6620
R6621
R6623
R6624
R6625
R6626
R6627
R6629
1/32W
100
RAB4CQ101J-T
C6619 YB 0.1/10
C6620 YB 0.1/10
CKSSYB104K10-T
V+1_2V_D2_ARIA
V+2_6V_D2_ARIA
V+3_4V_D3_ARIA
V+VDDIO_ARIA
MDQS_ARIA_A/B/C
0:DQS0
1:DQS1
2:DQS2
3:DQS3
MCTRL_ARIA_A/B/C
0:CKE
1:BA0
2:BA1
3:/CS
4:/RAS
5:/CAS
6:/WE
V+2_6V_D2_ARIA
R6607 2.2K
R6608
R6609 2.2K
C6636 YB 1.0/10
NO USE
GND
C6622 0.1/10 YB
C6623 0.1/10 YB
C6627 0.1/10 YB
C6628 0.1/10 YB
7/9
6/9
8/9
9/9
from/to ARIA_MEMORY
MVREF_ARIA_A 20-A1
MCLK_ARIA_A 20-A1
MCLKB_ARIA_A 20-A1
MDQS_ARIA_A[0:3] 18-B1,20-A1 MDQS ARIA A[0:3]
MCTRL_ARIA_A[0:6] 20-A1 MCTRL ARIA A[0:6]
MA_ARIA_A[0:11] 20-B1 MA ARIA A[0:11]
MD_ARIA_A[0:31] 18-B1,20-A1 MD ARIA A[0:31]
to ADC
CLP_AD 7-A4
HD_PLL 7-A4
HOLD_PLL 7-A4
R6630
1/32W
22
RAB4CQ220J-T
HOLD_PLL_1 18-B1
CLP_RGB2_1 18-B1
from ARIA_0
to RGBSW
CLP_RGB2 11-D5
IC6501
PD6568A-

ITEM	USED	
R	6601-6630	66
C	6601-6608, 6610-6629, 6632, 6634-6637	66
F	6601-6616	
L	6601	

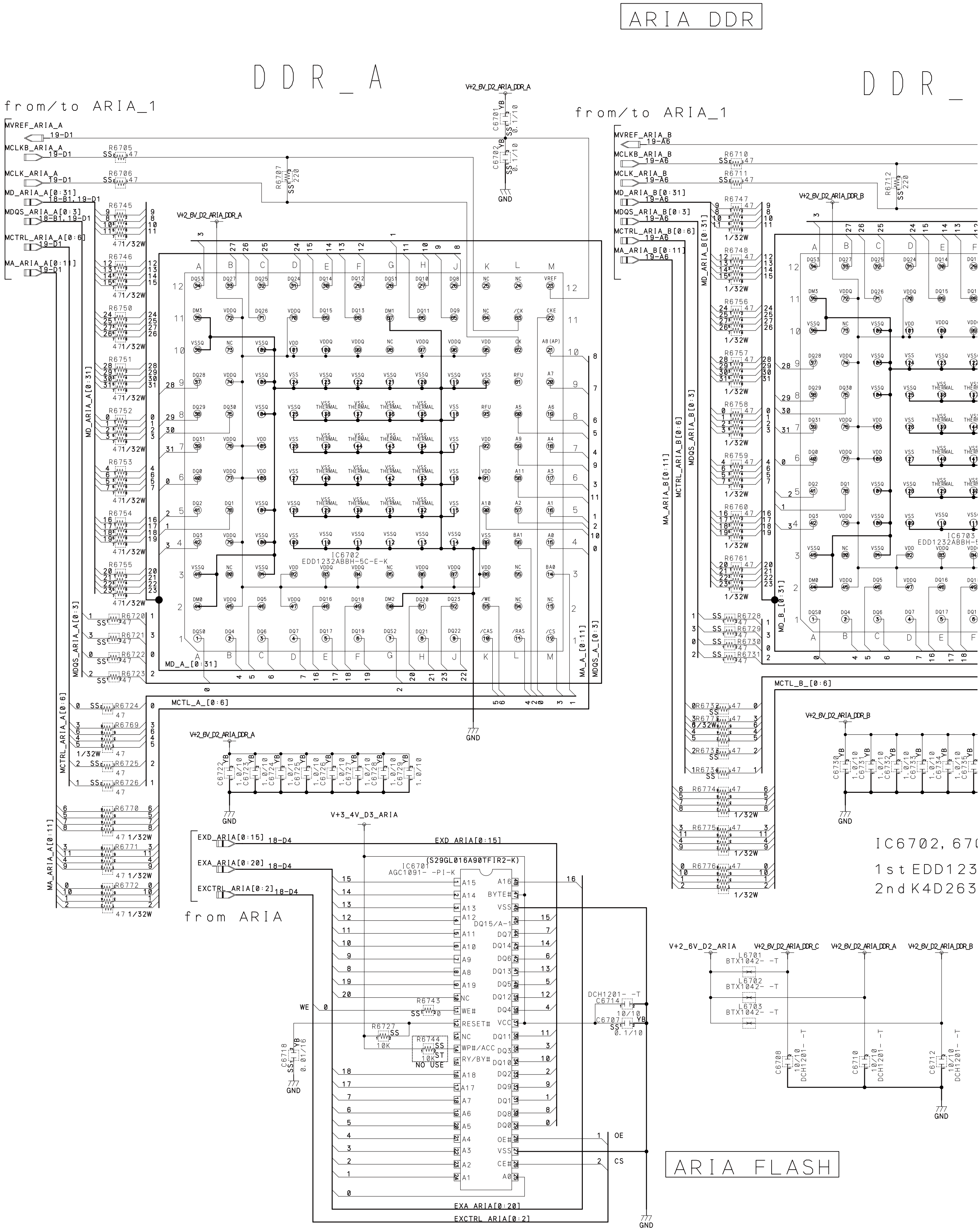

V+2_6V_D2_ARIA
NO USE
GND
from/to ARIA_MEMORY
MVREF_ARIA_B
MCLKB_ARIA_B
MCLK_ARIA_B
MDQS_ARIA_B[0:3]
MCTRL_ARIA_B[0:6]
MA_ARIA_B[0:11]
MD_ARIA_B[0:31]
DIN7_RCR[0:7]
DIN7_GY[0:7]
DIN7_BCB[0:7]
HD7
VD7
CLK7
HD7_O
VD7_O
DIN7_ALPHA[0:7]
CLK7_O
from/to EMMA2
RAB4CQ330J-T
1/32W
R6628
R6601
C6618
C6621
C6624
C6625
C6626
C6629
C6635
C6632
R6603
R6604
R6605
R6610
R6611
R6612
from/to ARIA_MEMORY
MVREF_ARIA_C
MCLKB_ARIA_C
MCLK_ARIA_C
MDQS_ARIA_C[0:3]
MCTRL_ARIA_C[0:6]
MA_ARIA_C[0:11]
MD_ARIA_C[0:31]
DIN2_GY[0:7]
DIN2_RCR[0:7]
from/to ADC ARIA_0
5/9
4/9
9/9
ASIC_ARIA
IC6501
PD6568A-K

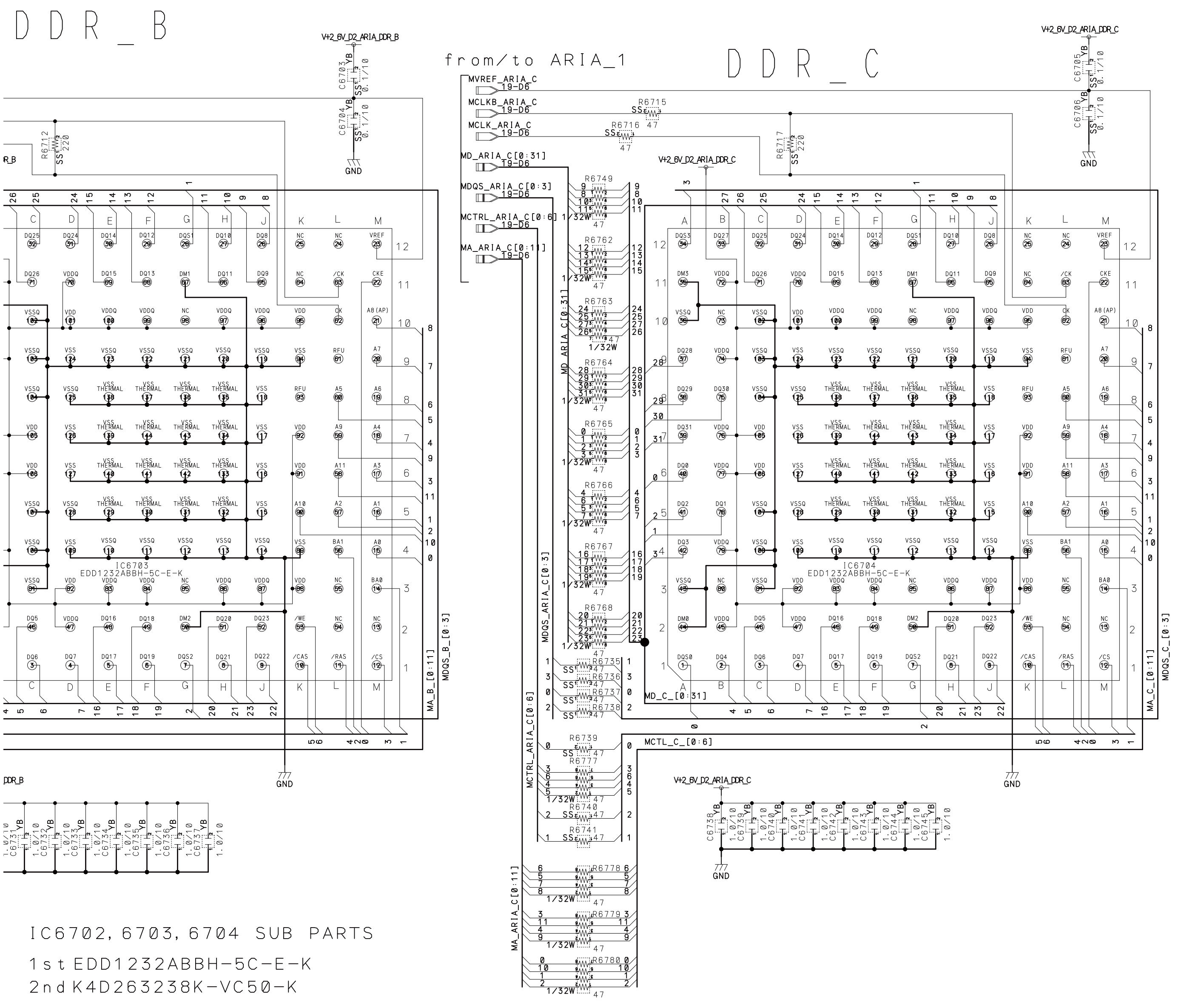
USED	VACANT
	6602
6610-6629, 6632,	6635-6637

MAIN ASSY (MR_IBD) (19/25)
ARIA_1 BLOCK

AWV2595- ; AWW1431

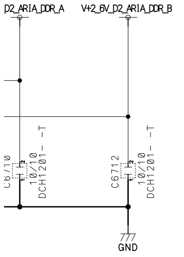
8.20 MAIN BLOCK ASSY (20/24) [ARIA_DDR BLOCK]


ARIA DDR
DDR_A
DDR_
from/to ARIA_1
MVREF_ARIA_A
MCLKB_ARIA_A
MCLK_ARIA_A
MD_ARIA_A[0:31]
MDQS_ARIA_A[0:3]
MCTRL_ARIA_A[0:6]
MA_ARIA_A[0:11]
MVREF_ARIA_B
MCLKB_ARIA_B
MCLK_ARIA_B
MD_ARIA_B[0:31]
MDQS_ARIA_B[0:3]
MCTRL_ARIA_B[0:6]
MA_ARIA_B[0:11]
V+2_6V_D2_ARIA_DDR_A
V+2_6V_D2_ARIA_DDR_B
V+2_6V_D2_ARIA_DDR_C
V+2_6V_D2_ARIA
V+3_4V_D3_ARIA
IC6702
EDD1232ABBH-5C-E-K
IC6703
MD_A_[0:31]
MA_A_[0:11]
MDQS_A_[0:3]
MCTL_A_[0:6]
MD_B_[0:31]
MCTL_B_[0:6]
from ARIA
EXD_ARIA[0:15]
EXA_ARIA[0:20]
EXCTRL_ARIA[0:2]
IC6701
(S29GL016A90TFIR2-K)
AGC1091- -PI-K
WE
OE
CS
NO USE
L6701 BTX1042- -T
L6702 BTX1042- -T
L6703 BTX1042- -T
DCH1201- -T
IC6702, 670
1st EDD123
2nd K4D263
ARIA FLASH
GND


D D R _ B
D D R _ C
from/to ARIA_1
V+2_6V_D2_ARIA_DDR_B
V+2_6V_D2_ARIA_DDR_C
MVREF_ARIA_C 19-D6
MCLKB_ARIA_C 19-D6
MCLK_ARIA_C 19-D6
MD_ARIA_C[0:31] 19-D6
MDQS_ARIA_C[0:3] 19-D6
MCTRL_ARIA_C[0:6] 19-D6
MA_ARIA_C[0:11] 19-D6
IC6703 EDD1232ABBH-5C-E-K
IC6704 EDD1232ABBH-5C-E-K
MA_B_[0:11]
MDQS_B_[0:3]
MA_C_[0:11]
MDQS_C_[0:3]
MD_C_[0:31]
MCTL_C_[0:6]
MD_ARIA_C[0:31]
MDQS_ARIA_C[0:3]
MCTRL_ARIA_C[0:6]
MA_ARIA_C[0:11]
C6703 C6704 C6705 C6706
R6712 R6715 R6716 R6717
R6749 R6762 R6763 R6764 R6765 R6766 R6767 R6768
R6735 R6736 R6737 R6738 R6739 R6777 R6740 R6741
R6778 R6779 R6780
C6731 C6732 C6733 C6734 C6735 C6736 C6737
C6738 C6739 C6740 C6741 C6742 C6743 C6744 C6745
GND

IC6702, 6703, 6704 SUB PARTS

1st EDD1232ABBH-5C-E-K
2nd K4D263238K-VC50-K


V+2_6V_D2_ARIA_DDR_A
V+2_6V_D2_ARIA_DDR_B
C6710
C6712
10/10
DCH1201-T
GND

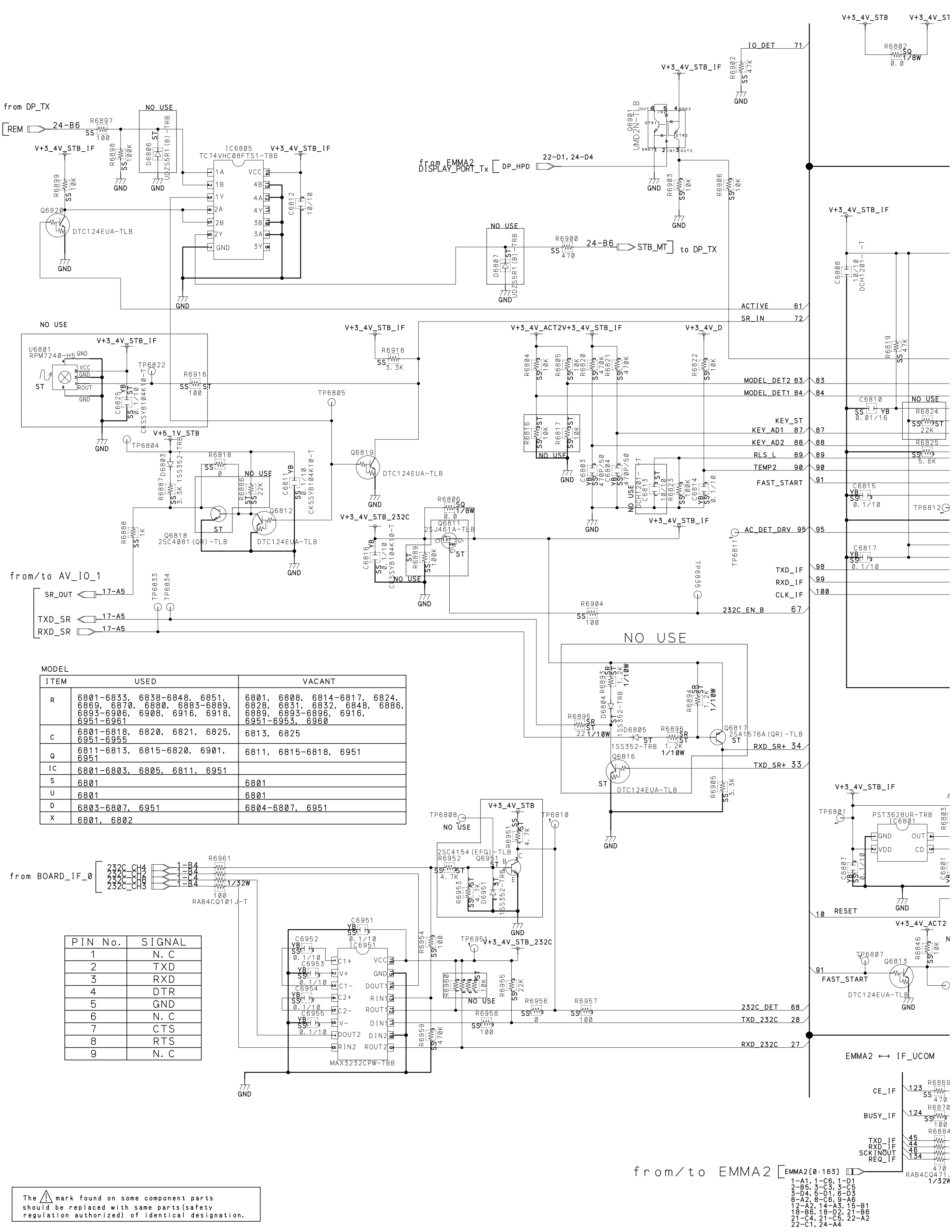
MODEL

ITEM	USED	VACANT
R	6705-6707, 6710-6712, 6715-6717, 6720-6741, 6743-6780	6744
C	6701-6708, 6710, 6712, 6714, 6718, 6722-6745	
IC	6701-6704	
L	6701-6703	

MAIN ASSY (MR_IBD) (20/25)
ARIA_MEM BLOCK

AWV2595- ; AWW1431

8.21 MAIN BLOCK ASSY (21/24) [IF_UCOM BLOCK]

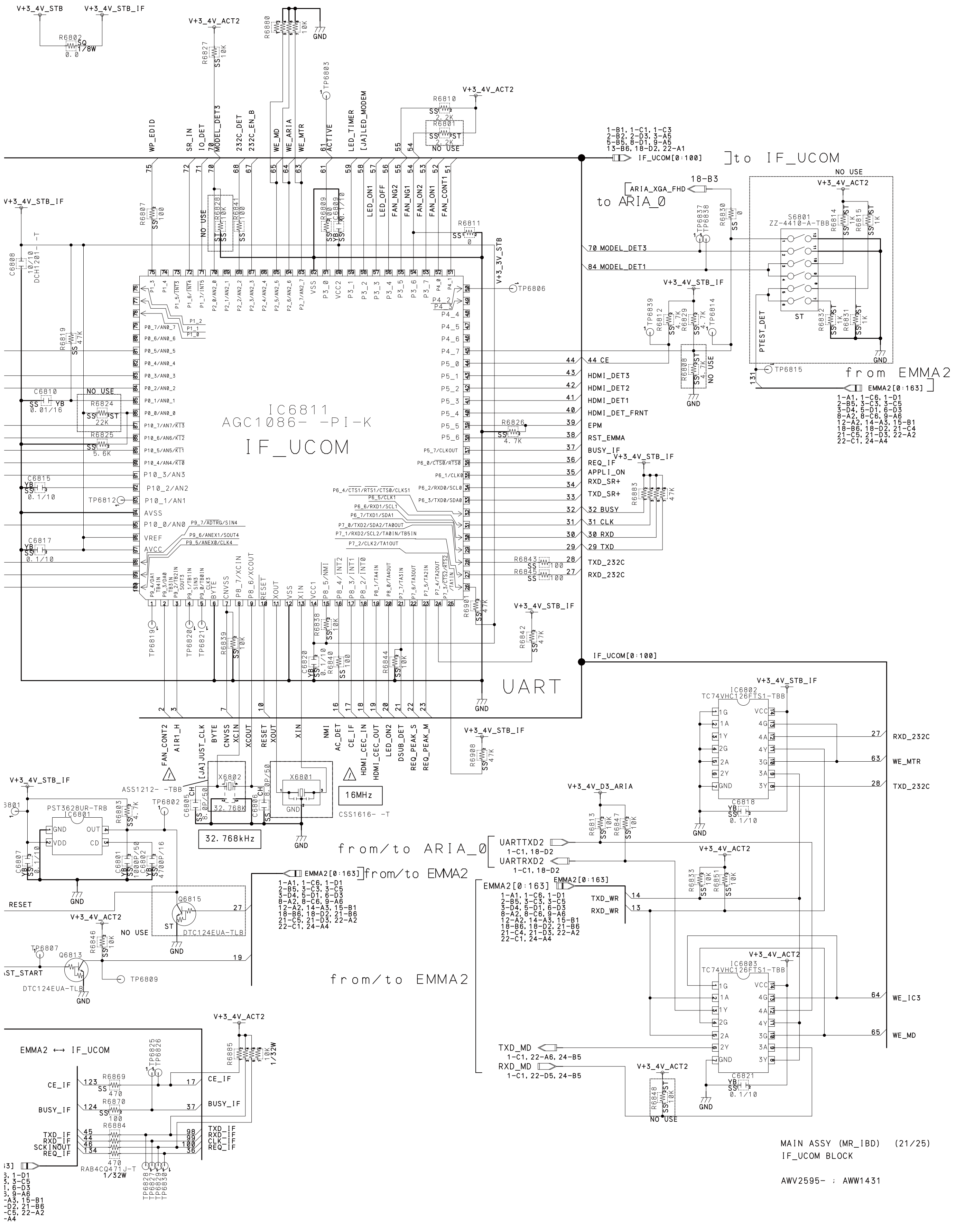

A
B
C
D
E
F
from DP_TX
REM
24-B6
R6897
100
NO USE
D6806
UDZS5R1(B)-TRB
V+3_4V_STB_IF
R6898
100K
R6899
10K
GND
IC6805
TC74VHC08FTS1-TBB
1A
1B
1Y
2A
2B
2Y
GND
VCC
4B
4A
4Y
3B
3A
3Y
C6812
10/10
Q6820
DTC124EUA-TLB
from EMMA2
DISPLAY_PORT_Tx
DP_HPD
22-D1, 24-D4
Q6901
UMD2N-T_B
R6902
47K
R6903
10K
R6906
10K
IO_DET 71
V+3_4V_STB
R6802
1/8W
0.0
D6807
UDZS5R1(B)-TRB
R6900
470
STB_MT
to DP_TX
C6808
10/10
DCH1201-T
ACTIVE 61
SR_IN 72
U6801
RPM7240-H5
VCC
GND
ROUT
TP6822
C6825
0.1/10
CKSSYB104K10-T
R6916
100
V+3_4V_STB_IF
R6918
3.3K
TP6805
V+3_4V_ACT2
V+3_4V_D
R6804
10K
R6805
10K
R6820
470K
R6821
470K
R6822
10K
R6819
47K
MODEL_DET2 83
MODEL_DET1 84
C6810
0.01/16
R6824
22K
R6825
5.6K
R6816
10K
R6817
10K
KEY_ST
KEY_AD1 87
KEY_AD2 88
RLS_L 89
TEMP2 90
FAST_START 91
C6803
470P/50
C6804
470P/50
C6813
10/10
DCH1201-T
R6823
100K
C6814
0.1/10
C6815
0.1/10
TP6812
V+5_1V_STB
TP6804
D6803
1SS352-TRB
R6807
3.3K
R6818
0
R6886
22K
C6811
0.1/10
CKSSYB104K10-T
Q6819
DTC124EUA-TLB
Q6818
2SC4081(QR)-TLB
Q6812
DTC124EUA-TLB
R6888
1K
V+3_4V_STB_232C
R6806
1/8W
0.0
Q6811
2SJ461A-TLB
C6816
0.1/10
CKSSYB104K10-T
R6889
100K
AC_DET_DRV 95
TP6811
C6817
0.1/10
TXD_IF 98
RXD_IF 99
CLK_IF 100
from/to AV_IO_1
SR_OUT
TXD_SR
RXD_SR
17-A5
TP6833
TP6834
TP6835
R6904
100
232C_EN_B 67
NO USE
R6893
1.2K
1/10W
D6804
1SS352-TRB
R6894
1.2K
1/10W
R6895
22
D6805
1SS352-TRB
R6896
1.2K
1/10W
Q6817
2SA1576A(QR)-TLB
RXD_SR+ 34
TXD_SR+ 33
Q6816
DTC124EUA-TLB
R6905
3.3K
V+3_4V_STB_IF
TP6801
PST3628UR-TRB
IC6801
OUT
CD
VDD
C6807
0.1/10
RESET 10
V+3_4V_ACT2
TP6807
Q6813
DTC124EUA-TLB
R6846
10K
FAST_START 91
TP6808
TP6810
V+3_4V_STB
R6951
4.7K
2SC4154(EFG)-TLB
Q6951
R6952
4.7K
R6953
4.7K
D6951
1SS352-TRB
from BOARD_IF_0
232C_CH4
232C_CH2
232C_CH8
232C_CH3
1-B4
1-C4
R6961
100
1/32W
RAB4CQ101J-T
C6951
0.1/10
C6952
0.1/10
C6953
0.1/10
C6954
0.1/10
C6955
0.1/10
IC6951
MAX3232CPW-TBB
C1+
V+
C1-
C2+
C2-
V-
DOUT2
RIN2
VCC
GND
DOUT1
RIN1
ROUT1
DIN1
DIN2
ROUT2
R6954
100
TP6951
V+3_4V_STB_232C
R6960
10K
R6955
22K
R6956
0
R6957
100
R6958
100
R6959
470K
232C_DET 68
TXD_232C 28
RXD_232C 27
EMMA2 ⟷ IF_UCOM
CE_IF 123
R6869
470
BUSY_IF 124
R6870
100
R6884
TXD_IF 45
RXD_IF 44
SCKINOUT 46
REQ_IF 134
470
RAB4CQ471
1/32W
from/to EMMA2
EMMA2[0:163]
1-A1, 1-C6, 1-D1
2-B5, 3-C3, 3-C5
3-D4, 5-D1, 6-D3
8-A2, 8-C6, 9-A6
12-A2, 14-A3, 15-B1
18-B6, 18-D2, 21-B6
21-C4, 21-C5, 22-A2
22-C1, 24-A4
SS
ST
YB
SQ
SR
GND

MODEL

ITEM	USED	VACANT
R	6801-6833, 6838-6848, 6851, 6869, 6870, 6880, 6883-6889, 6893-6906, 6908, 6916, 6918, 6951-6961	6801, 6808, 6814-6817, 6824, 6828, 6831, 6832, 6848, 6886, 6889, 6893-6896, 6916, 6951-6953, 6960
C	6801-6818, 6820, 6821, 6825, 6951-6955	6813, 6825
Q	6811-6813, 6815-6820, 6901, 6951	6811, 6815-6818, 6951
IC	6801-6803, 6805, 6811, 6951	
S	6801	6801
U	6801	6801
D	6803-6807, 6951	6804-6807, 6951
X	6801, 6802	

PIN No.	SIGNAL
1	N.C
2	TXD
3	RXD
4	DTR
5	GND
6	N.C
7	CTS
8	RTS
9	N.C

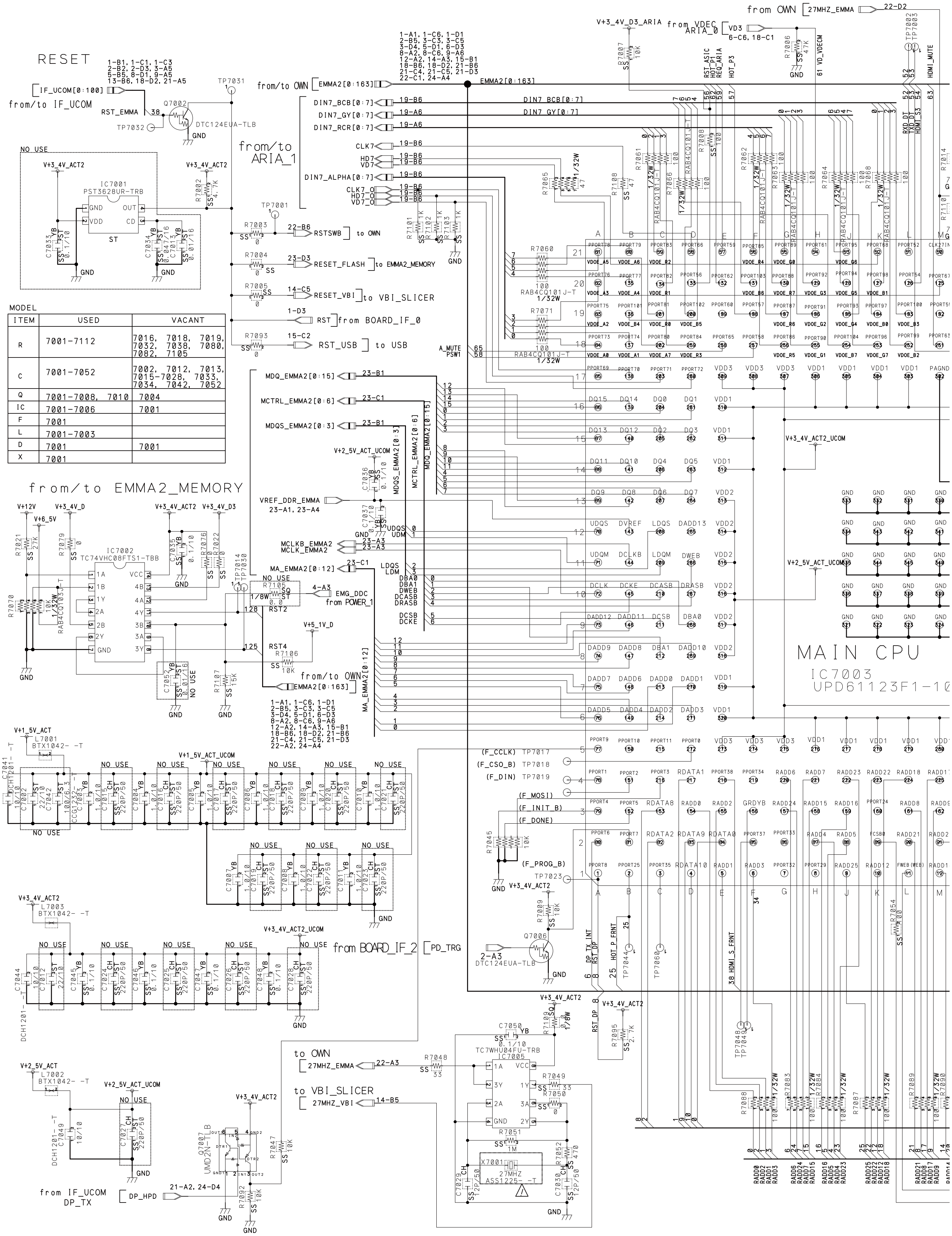
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.


IC6811
AGC1086- -PI-K
IF_UCOM
UART
V+3_4V_STB
V+3_4V_STB_IF
V+3_4V_ACT2
V+3_4V_D3_ARIA
IF_UCOM[0:100]
]to IF_UCOM
to ARIA_0
ARIA_XGA_FHD
from EMMA2
EMMA2[0:163]
from/to ARIA_0
from/to EMMA2
UARTTXD2
UARTRXD2
TXD_WR
RXD_WR
TXD_MD
RXD_MD
S6801
ZZ-4410-A-TBB
NO USE
PTEST_DET
70 MODEL_DET3
84 MODEL_DET1
44 CE
HDMI_DET3
HDMI_DET2
HDMI_DET1
HDMI_DET_FRNT
EPM
RST_EMMA
BUSY_IF
REQ_IF
APPLI_ON
RXD_SR+
TXD_SR+
32 BUSY
31 CLK
30 RXD
29 TXD
TXD_232C
RXD_232C
WP_EDID
SR_IN
IO_DET
MODEL_DET3
232C_DET
232C_EN_B
WE_MD
WE_ARIA
WE_MTR
ACTIVE
LED_TIMER
[JA]LED_MODEM
LED_ON1
LED_OFF
FAN_NG2
FAN_NG1
FAN_ON2
FAN_ON1
FAN_CONT1
V+3_3V_STB
FAN_CONT2
AIR1_H
[JA]JUST_CLK
BYTE
CNVSS
XCIN
XCOUT
RESET
XOUT
XIN
NMI
AC_DET
CE_IF
HDMI_CEC_IN
HDMI_CEC_OUT
LED_ON2
DSUB_DET
REQ_PEAK_S
REQ_PEAK_M
X6802
32.768K
32.768kHz
X6801
16MHz
CSS1616- -T
ASS1212- -TBB
PST3628UR-TRB
IC6801
Q6815
DTC124EUA-TLB
Q6813
AST_START
IC6802
TC74VHC126FTS1-TBB
IC6803
TC74VHC126FTS1-TBB
WE_IC3
WE_MD
WE_MTR
EMMA2 ↔ IF_UCOM
CE_IF
BUSY_IF
TXD_IF
RXD_IF
SCKINOUT
CLK_IF
REQ_IF
RAB4CQ471J-T
1/32W
GND
A B C D E F

MAIN ASSY (MR_IBD) (21/25)
IF_UCOM BLOCK

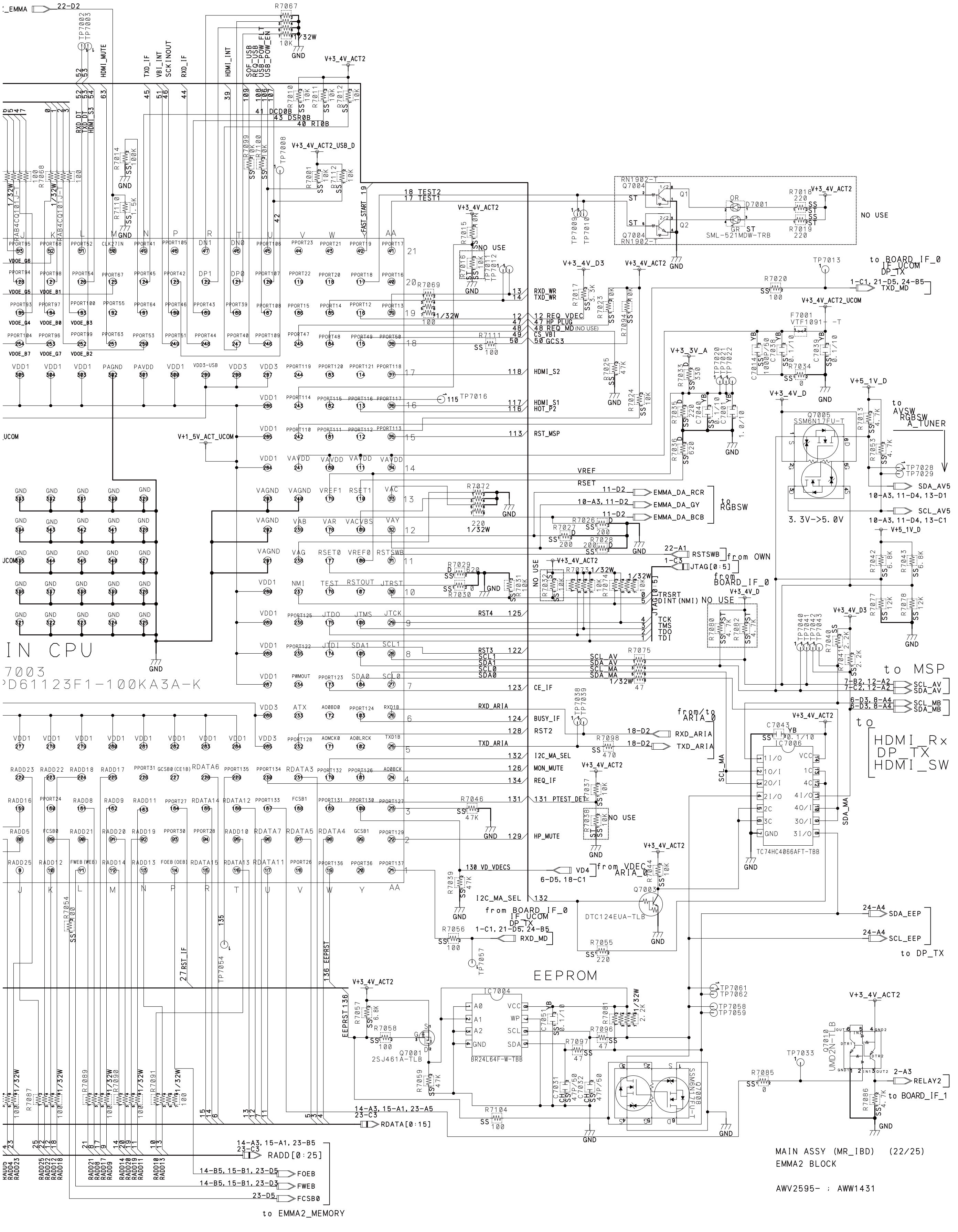
AWV2595- ; AWW1431

8.22 MAIN BLOCK ASSY (22/24) [EMMA2 BLOCK]


RESET
from/to IF_UCOM
IF_UCOM[0:100]
RST_EMMA
Q7002
DTC124EUA-TLB
TP7031
TP7032
NO USE
IC7001
PST3628UR-TRB
V+3_4V_ACT2
R7002
4.7K
from/to ARIA_1
from/to OWN
EMMA2[0:163]
DIN7_BCB[0:7]
DIN7_GY[0:7]
DIN7_RCR[0:7]
CLK7
HD7
VD7
DIN7_ALPHA[0:7]
RSTSWB to OWN
RESET_FLASH to EMMA2_MEMORY
RESET_VBI to VBI_SLICER
RST from BOARD_IF_0
RST_USB to USB
from VDEC ARIA_0
VD3
27MHZ_EMMA
from OWN
HDMI_MUTE
from/to EMMA2_MEMORY
IC7002
TC74VHC08FTS1-TBB
MDQ_EMMA2[0:15]
MCTRL_EMMA2[0:6]
MDQS_EMMA2[0:3]
VREF_DDR_EMMA
MCLKB_EMMA2
MCLK_EMMA2
MA_EMMA2[0:12]
EMG_DDC from POWER_1
MAIN CPU
IC7003
UPD61123F1-10
to OWN
27MHZ_EMMA
to VBI_SLICER
27MHZ_VBI
TC7WHU04FU-TRB
IC7005
X7001
27MHZ
ASS1225- -T
from IF_UCOM DP_TX
DP_HPD
Q7007
UMD2N-T1B
Q7006
DTC124EUA-TLB
from BOARD_IF_2
PD_TRG
L7001
L7002
L7003
BTX1042- -T
DCH1201- -T
V+1_5V_ACT
V+1_5V_ACT_UCOM
V+2_5V_ACT
V+2_5V_ACT_UCOM
V+3_4V_ACT2_UCOM

MODEL

ITEM	USED	VACANT
R	7001-7112	7016, 7018, 7019, 7032, 7038, 7080, 7082, 7105
C	7001-7052	7002, 7012, 7013, 7015-7028, 7033, 7034, 7042, 7052
Q	7001-7008, 7010	7004
IC	7001-7006	7001
F	7001	
L	7001-7003	
D	7001	7001
X	7001	

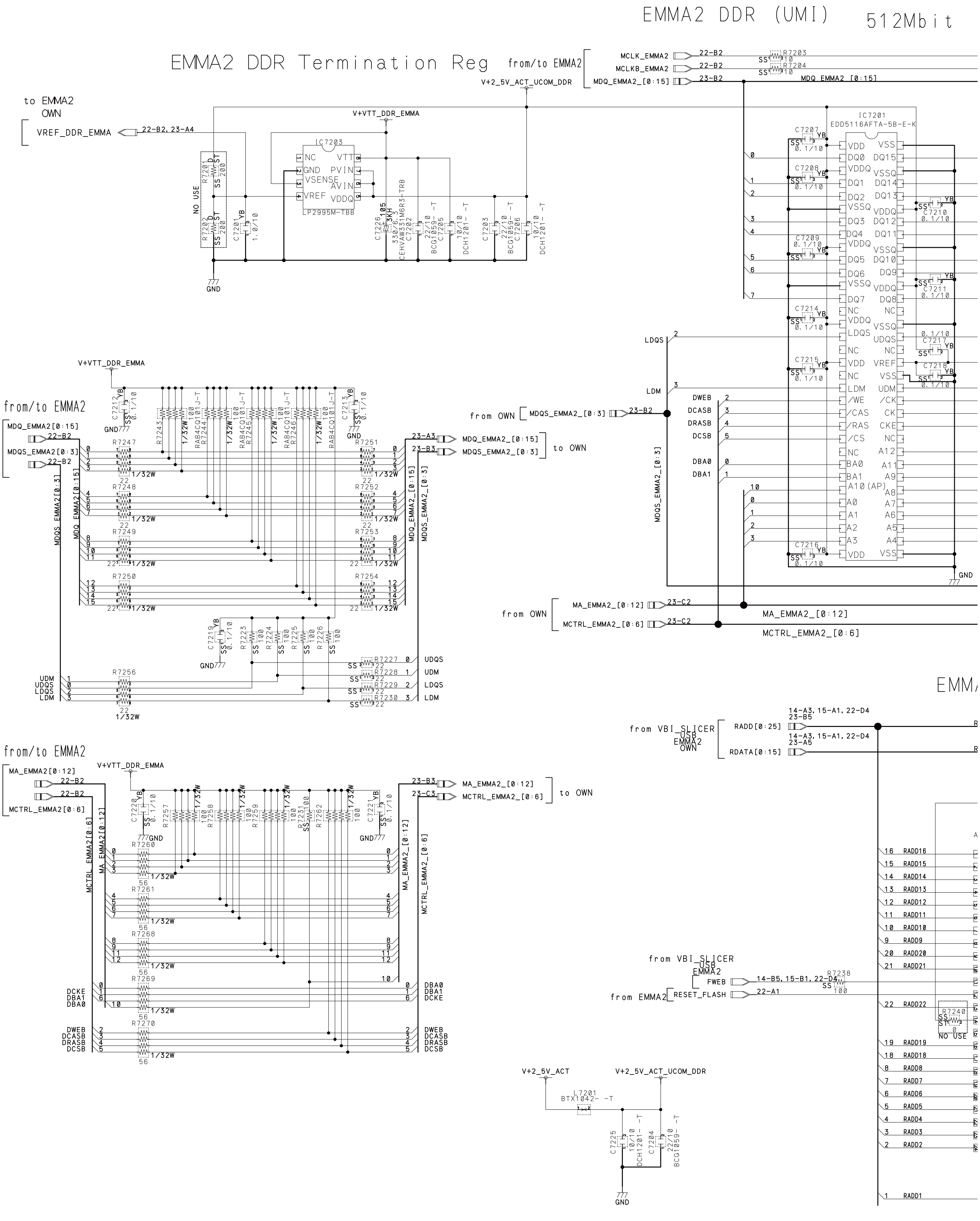


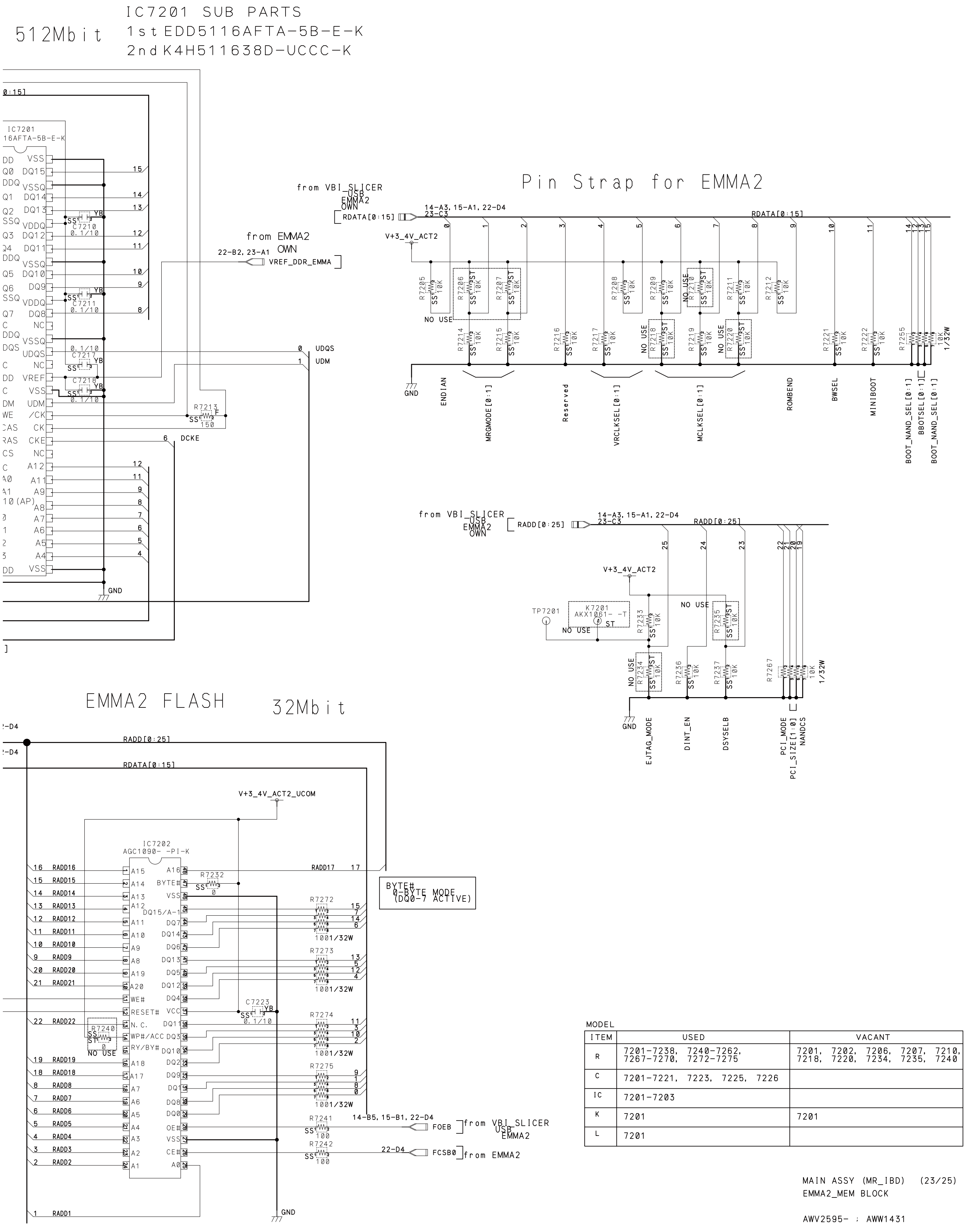
IN CPU
IC7003
PD61123F1-100KA3A-K
EEPROM
IC7004
BR24L64F-W-TBB
IC7006
TC74HC4066AFT-TBB
Q7001
2SJ461A-TLB
Q7003
DTC124EUA-TLB
Q7004
RN1902-T
Q7005
SSM6N17FU-T
Q7010
UMD2N-T1B
D7001
SML-521MDW-TRB
F7001
VTF1091-T
NO USE
3.3V->5.0V
V+3_4V_ACT2
V+3_4V_ACT2_USB_D
V+3_4V_ACT2_UCOM
V+3_4V_D3
V+3_4V_D
V+3_3V_A
V+5_1V_D
V+1_5V_ACT_UCOM
GND
18 TEST2
17 TEST1
FAST_START
HDMI_MUTE
TXD_IF
VBI_INT
SCKINOUT
RXD_IF
HDMI_INT
SOF_USB
REQ_USB
USB_POW_FLT
USB_POW_EN
41 DCD0B
43 DSR0B
40 RI0B
RXD_DT
TXD_DT
HDMI_S3
RXD_WR
TXD_WR
12 REQ_VDEC
47 HP_PLUG
48 REQ_MD (NO USE)
CS_VBI
50 GCS3
HDMI_S2
HDMI_S1
HOT_P2
RST_MSP
VREF
RSET
EMMA_DA_RCR
EMMA_DA_GY
EMMA_DA_BCB
to RGBSW
RSTSWB
JTAG[0:5]
from OWN
from BOARD_IF_0
TRSRT
DINT(NMI)
TCK
TMS
TDO
TDI
RST4
RST3
SCL1
SDA1
SCL0
SDA0
SCL_AV
SDA_AV
SCL_MA
SDA_MA
CE_IF
RXD_ARIA
TXD_ARIA
BUSY_IF
RST2
from/to ARIA_0
I2C_MA_SEL
MON_MUTE
REQ_IF
131 PTEST_DET
HP_MUTE
130 VD_VDECS
VD4
6-D5, 18-C1
from VDEC ARIA_0
from BOARD_IF_0 IF_UCOM DP_TX
1-C1, 21-D5, 24-B5
RXD_MD
TXD_MD
to BOARD_IF_0 IF_UCOM DP_TX
to AVSW RGBSW A_TUNER
SDA_AV5
SCL_AV5
10-A3, 11-D4, 13-D1
10-A3, 11-D4, 13-C1
to MSP
7-B2, 12-A2
7-C2, 12-A2
SCL_MB
SDA_MB
6-D3, 8-A4
to HDMI_Rx DP_TX HDMI_SW
SDA_EEP
SCL_EEP
24-A4
to DP_TX
RELAY2
2-A3
to BOARD_IF_1
EEPRST
RST_IF
RDATA[0:15]
14-A3, 15-A1, 23-A5 23-C3
RADD[0:25]
14-A3, 15-A1, 23-B5 23-C3
FOEB
FWEB
FCSB0
14-B5, 15-B1, 23-D5
23-D5
to EMMA2_MEMORY

MAIN ASSY (MR_IBD) (22/25)
EMMA2 BLOCK

AWV2595- ; AWW1431

8.23 MAIN BLOCK ASSY (23/24) [EMMA2_MEM BLOCK]


EMMA2 DDR (UMI) 512Mbit
EMMA2 DDR Termination Reg
from/to EMMA2
MCLK_EMMA2
MCLKB_EMMA2
MDQ_EMMA2_[0:15]
V+2_5V_ACT_UCOM_DDR
to EMMA2 OWN
VREF_DDR_EMMA
22-B2, 23-A4
V+VTT_DDR_EMMA
IC7203
LP2995M-TBB
NC VTT GND PVIN VSENSE AVIN VREF VDDQ
NO USE
R7220
R7221
C7201 1.0/10
C7226 330/6.3KH
CEHVAW331M6R3-TRB
C7202 22/10 BCG1059 -T
C7205 10/10 DCH1201- -T
C7203 22/10 BCG1059 -T
C7206 10/10 DCH1201- -T
GND
IC7201
EDD5116AFTA-5B-E-K
VDD DQ0 VDDQ DQ1 DQ2 VSSQ DQ3 DQ4 VDDQ DQ5 DQ6 VSSQ DQ7 NC VDDQ LDQS NC VDD NC LDM /WE /CAS /RAS /CS NC BA0 BA1 A10(AP) A0 A1 A2 A3 VDD
VSS DQ15 VSSQ DQ14 DQ13 VDDQ DQ12 DQ11 VSSQ DQ10 DQ9 VDDQ DQ8 NC VSSQ UDQS NC VREF VSS UDM /CK CK CKE NC A12 A11 A9 A8 A7 A6 A5 A4 VSS
C7207 C7208 C7209 C7210 C7211 C7214 C7215 C7216 C7217 C7218 0.1/10
R7203 R7204 10
LDQS LDM DWEB DCASB DRASB DCSB DBA0 DBA1
from OWN MDQS_EMMA2_[0:3] 23-B2
MA_EMMA2_[0:12] 23-C2
MCTRL_EMMA2_[0:6] 23-C2
from/to EMMA2
MDQ_EMMA2[0:15] 22-B2
MDQS_EMMA2[0:3] 22-B2
R7247 R7248 R7249 R7250 R7251 R7252 R7253 R7254 22 1/32W
R7243 R7244 R7245 R7246 RAB4CQ101J-T 100
C7212 C7213 0.1/10
23-A3 MDQ_EMMA2_[0:15]
23-B3 MDQS_EMMA2_[0:3]
to OWN
C7219 R7223 R7224 R7225 R7226 100
R7227 R7228 R7229 R7230 22
UDQS UDM LDQS LDM
R7256 22 1/32W
MA_EMMA2[0:12] 22-B2
MCTRL_EMMA2[0:6] 22-B2
C7220 C7221 0.1/10
R7257 R7258 R7259 R7231 R7262 100
R7260 R7261 R7268 R7269 R7270 56 1/32W
23-B3 MA_EMMA2_[0:12]
23-C3 MCTRL_EMMA2_[0:6]
DCKE DBA1 DBA0 DWEB DCASB DRASB DCSB
from VBI_SLICER USB EMMA2 OWN
RADD[0:25] 14-A3, 15-A1, 22-D4 23-B5
RDATA[0:15] 14-A3, 15-A1, 22-D4 23-A5
RADD16 RADD15 RADD14 RADD13 RADD12 RADD11 RADD10 RADD9 RADD20 RADD21 RADD22 RADD19 RADD18 RADD8 RADD7 RADD6 RADD5 RADD4 RADD3 RADD2 RADD1
EMM
FWEB 14-B5, 15-B1, 22-D4
R7238 100
from EMMA2 RESET_FLASH 22-A1
R7240 0 NO USE
V+2_5V_ACT
V+2_5V_ACT_UCOM_DDR
L7201 BTX1042- -T
C7225 10/10 DCH1201- -T
C7204 22/10 BCG1059- -T



IC7201 SUB PARTS
512Mbit
1st EDD5116AFTA-5B-E-K
2nd K4H511638D-UCCC-K
IC7201
16AFTA-5B-E-K
VSS
DQ15
VSSQ
DQ14
DQ13
VDDQ
DQ12
DQ11
VSSQ
DQ10
DQ9
VDDQ
DQ8
NC
VSSQ
UDQS
NC
VREF
VSS
UDM
/CK
CK
CKE
NC
A12
A11
A9
A8
A7
A6
A5
A4
VSS
C7210 0.1/10
C7211 0.1/10
C7217 0.1/10
C7218 0.1/10
YB
SS
R7213 150
UDQS
UDM
DCKE
GND
Pin Strap for EMMA2
from VBI_SLICER USB EMMA2 OWN
RDATA[0:15]
14-A3, 15-A1, 22-D4 23-C3
V+3_4V_ACT2
from EMMA2 OWN
22-B2, 23-A1
VREF_DDR_EMMA
R7205 10K
R7206 10K
R7207 10K
R7208 10K
R7209 10K
R7210 10K
R7211 10K
R7212 10K
R7214 10K
R7215 10K
R7216 10K
R7217 10K
R7218 10K
R7219 10K
R7220 10K
R7221 10K
R7222 10K
R7255 10K 1/32W
NO USE
GND
ENDIAN
MRGMODE[0:1]
Reserved
VRCLKSEL[0:1]
MCLKSEL[0:1]
ROMBEND
BWSEL
MINIBOOT
BOOT_NAND_SEL[0:1]
BBOTSEL[0:1]
BOOT_NAND_SEL[0:1]
from VBI_SLICER USB EMMA2 OWN
RADD[0:25]
14-A3, 15-A1, 22-D4 23-C3
V+3_4V_ACT2
TP7201
K7201 AKX1061- -T
R7233 10K
R7235 10K
R7234 10K
R7236 10K
R7237 10K
R7267 10K 1/32W
EJTAG_MODE
DINT_EN
DSYSELB
PCI_MODE
PCI_SIZE[1:0]
NANDCS
EMMA2 FLASH
32Mbit
RADD[0:25]
RDATA[0:15]
V+3_4V_ACT2_UCOM
IC7202
AGC1090- -PI-K
A15
A14
A13
A12
A11
A10
A9
A8
A19
A20
WE#
RESET#
N.C.
WP#/ACC
RY/BY#
A18
A17
A7
A6
A5
A4
A3
A2
A1
A16
BYTE#
VSS
DQ15/A-1
DQ7
DQ14
DQ6
DQ13
DQ5
DQ12
DQ4
VCC
DQ11
DQ3
DQ10
DQ2
DQ9
DQ1
DQ8
DQ0
OE#
VSS
CE#
A0
R7232 0
R7240 0
C7223 0.1/10
R7272 100 1/32W
R7273 100 1/32W
R7274 100 1/32W
R7275 100 1/32W
BYTE#
0-BYTE MODE
(DQ0-7 ACTIVE)
R7241 100
R7242 100
14-B5, 15-B1, 22-D4
FOEB
from VBI_SLICER USB EMMA2
22-D4
FCSB0
from EMMA2
GND

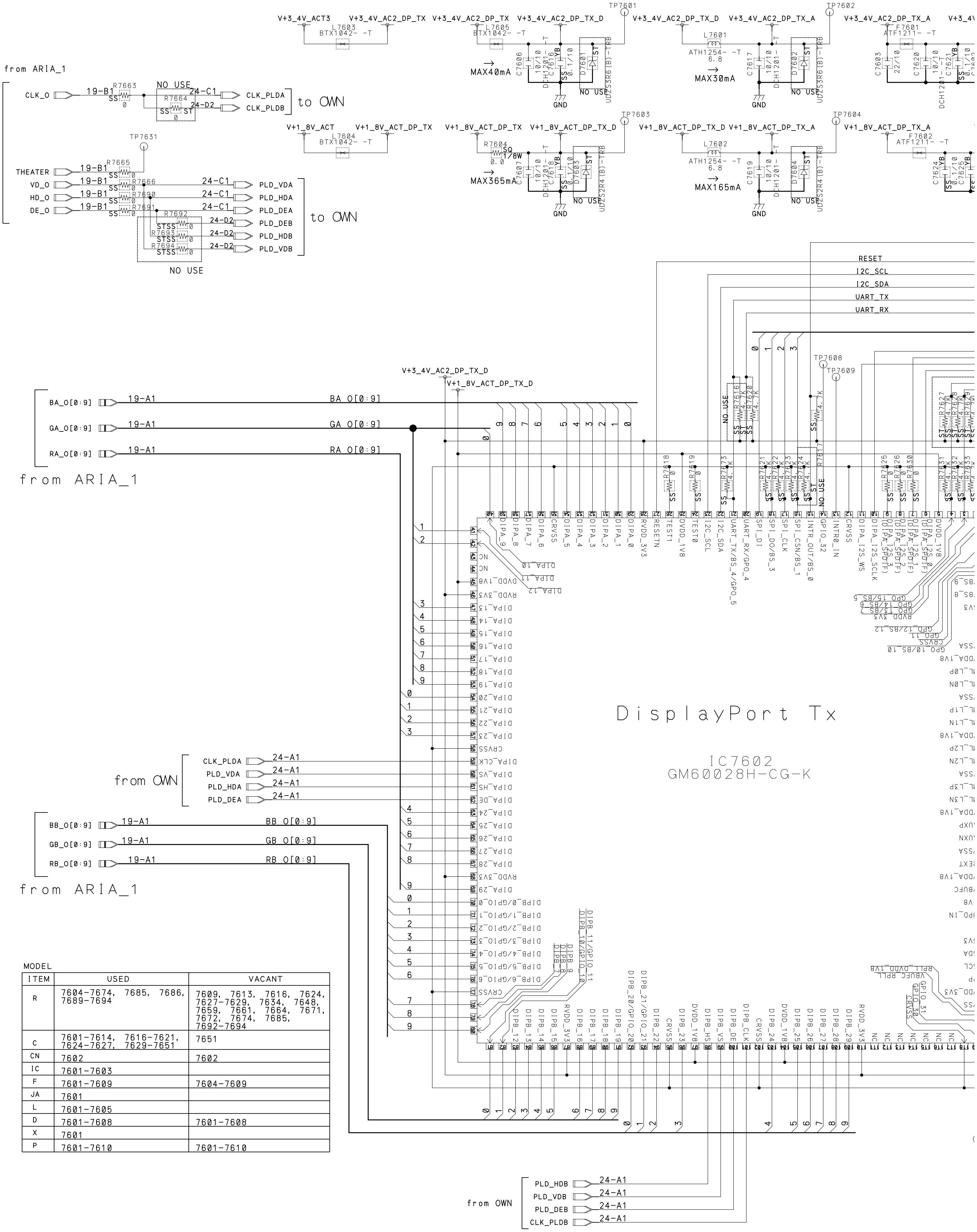
MODEL

ITEM	USED	VACANT
R	7201-7238, 7240-7262, 7267-7270, 7272-7275	7201, 7202, 7206, 7207, 7210, 7218, 7220, 7234, 7235, 7240
C	7201-7221, 7223, 7225, 7226	
IC	7201-7203	
K	7201	7201
L	7201	

MAIN ASSY (MR_IBD) (23/25)
EMMA2_MEM BLOCK

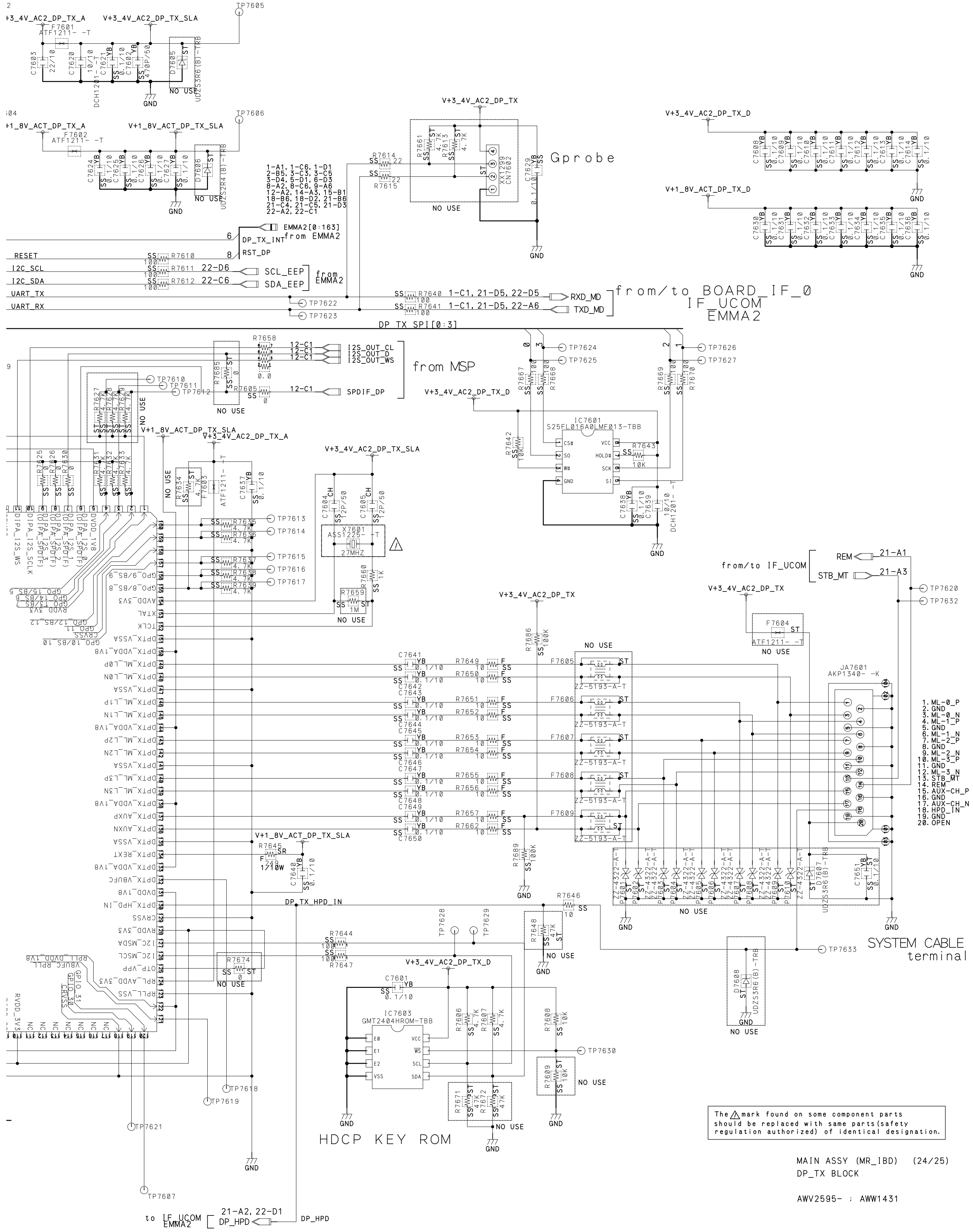
AWV2595- ; AWW1431

8.24 MAIN BLOCK ASSY (24/24) [DP_TX BLOCK]


from ARIA_1
CLK_O
19-B1
R7663
SS
0
NO USE
R7664
24-C1
24-D2
SS ST
CLK_PLDA
CLK_PLDB
to OWN
TP7631
THEATER
VD_O
HD_O
DE_O
R7665
R7666
R7690
R7691
R7692
R7693
R7694
STSS
PLD_VDA
PLD_HDA
PLD_DEA
PLD_DEB
PLD_HDB
PLD_VDB
NO USE
V+3_4V_ACT3
V+3_4V_AC2_DP_TX
L7603
BTX1042- -T
L7605
V+3_4V_AC2_DP_TX_D
TP7601
C7606
C7616
D7601
UDZS3R6(B)-TRB
MAX40mA
GND
L7601
ATH1254- -T
6.8
C7617
D7602
MAX30mA
V+3_4V_AC2_DP_TX_A
TP7602
F7601
ATF1211- -T
C7603
C7620
C7621
DCH1201- -T
V+1_8V_ACT
V+1_8V_ACT_DP_TX
L7604
R7604
SQ
1/8W
0.0
V+1_8V_ACT_DP_TX_D
TP7603
C7607
C7618
D7603
UDZS2R4(B)-TRB
MAX365mA
L7602
C7619
D7604
MAX165mA
V+1_8V_ACT_DP_TX_A
TP7604
F7602
C7624
C7625
RESET
I2C_SCL
I2C_SDA
UART_TX
UART_RX
TP7608
TP7609
BA_O[0:9]
GA_O[0:9]
RA_O[0:9]
19-A1
BA O[0:9]
GA O[0:9]
RA O[0:9]
from ARIA_1
R7616
R7620
R7618
R7619
R7673
R7621
R7622
R7623
R7624
R7617
R7625
R7626
R7630
R7631
R7632
R7633
R7627
4.7K
DIPA_9
DIPA_8
DIPA_7
DIPA_6
CRVSS
DIPA_5
DIPA_4
DIPA_3
DIPA_2
DIPA_1
DIPA_0
RVDD_3V3
RESETN
TEST1
DVDD_1V8
TEST0
I2C_SCL
I2C_SDA
UART_TX/BS_4/GPO_4
UART_RX/GPO_5
SPI_DI
SPI_DO/BS_3
SPI_CLK
SPI_CSN/BS_1
INTR_OUT/BS_0
GPIO_32
INTR0_IN
CRVSS
DIPA_I2S_WS
DIPA_I2S_SCLK
DIPA_I2S_0
DIPA_I2S_1
DIPA_I2S_2
DIPA_I2S_3
DVDD_1V8
DIPA_10
DIPA_11
DIPA_12
NC
DVDD_1V8
RVDD_3V3
DIPA_13
DIPA_14
DIPA_15
DIPA_16
DIPA_17
DIPA_18
DIPA_19
DIPA_20
DIPA_21
DIPA_22
DIPA_23
CRVSS
DIPA_CLK
DIPA_VS
DIPA_HS
DIPA_DE
DIPA_24
DIPA_25
DIPA_26
DIPA_27
DIPA_28
RVDD_3V3
DIPA_29
DIPB_0/GPIO_0
DIPB_1/GPIO_1
DIPB_2/GPIO_2
DIPB_3/GPIO_3
DIPB_4/GPIO_4
DIPB_5/GPIO_5
DIPB_6/GPIO_6
CRVSS
DIPB_7
DIPB_8
DIPB_9
DIPB_10/GPIO_10
DIPB_11/GPIO_11
DIPB_12
DIPB_13
DIPB_14
DIPB_15
RVDD_3V3
DIPB_16
DIPB_17
DIPB_18
DIPB_19
DIPB_20/GPIO_20
DIPB_21/GPIO_21
DIPB_22
CRVSS
DIPB_23
DVDD_1V8
DIPB_HS
DIPB_VS
DIPB_DE
DIPB_CLK
CRVSS
DIPB_24
DVDD_1V8
DIPB_25
DIPB_26
DIPB_27
DIPB_28
DIPB_29
RVDD_3V3
NC
GPO 15/BS 5
GPO 14/BS 6
GPO 13/BS 7
RVDD 3V3
GPO 12/BS 12
GPO 11
CRVSS
GPO 10/BS 10
RPLL DVDD 1V8
VBUFC RPLL
GPIO 31
GPIO 30
CRVSS
DisplayPort Tx
IC7602
GM60028H-CG-K
CLK_PLDA
PLD_VDA
PLD_HDA
PLD_DEA
24-A1
from OWN
BB_O[0:9]
GB_O[0:9]
RB_O[0:9]
BB O[0:9]
GB O[0:9]
RB O[0:9]
from ARIA_1
PLD_HDB
PLD_VDB
PLD_DEB
CLK_PLDB
from OWN

MODEL

ITEM	USED	VACANT
R	7604-7674, 7685, 7686, 7689-7694	7609, 7613, 7616, 7624, 7627-7629, 7634, 7648, 7659, 7661, 7664, 7671, 7672, 7674, 7685, 7692-7694
C	7601-7614, 7616-7621, 7624-7627, 7629-7651	7651
CN	7602	7602
IC	7601-7603	
F	7601-7609	7604-7609
JA	7601	
L	7601-7605	
D	7601-7608	7601-7608
X	7601	
P	7601-7610	7601-7610

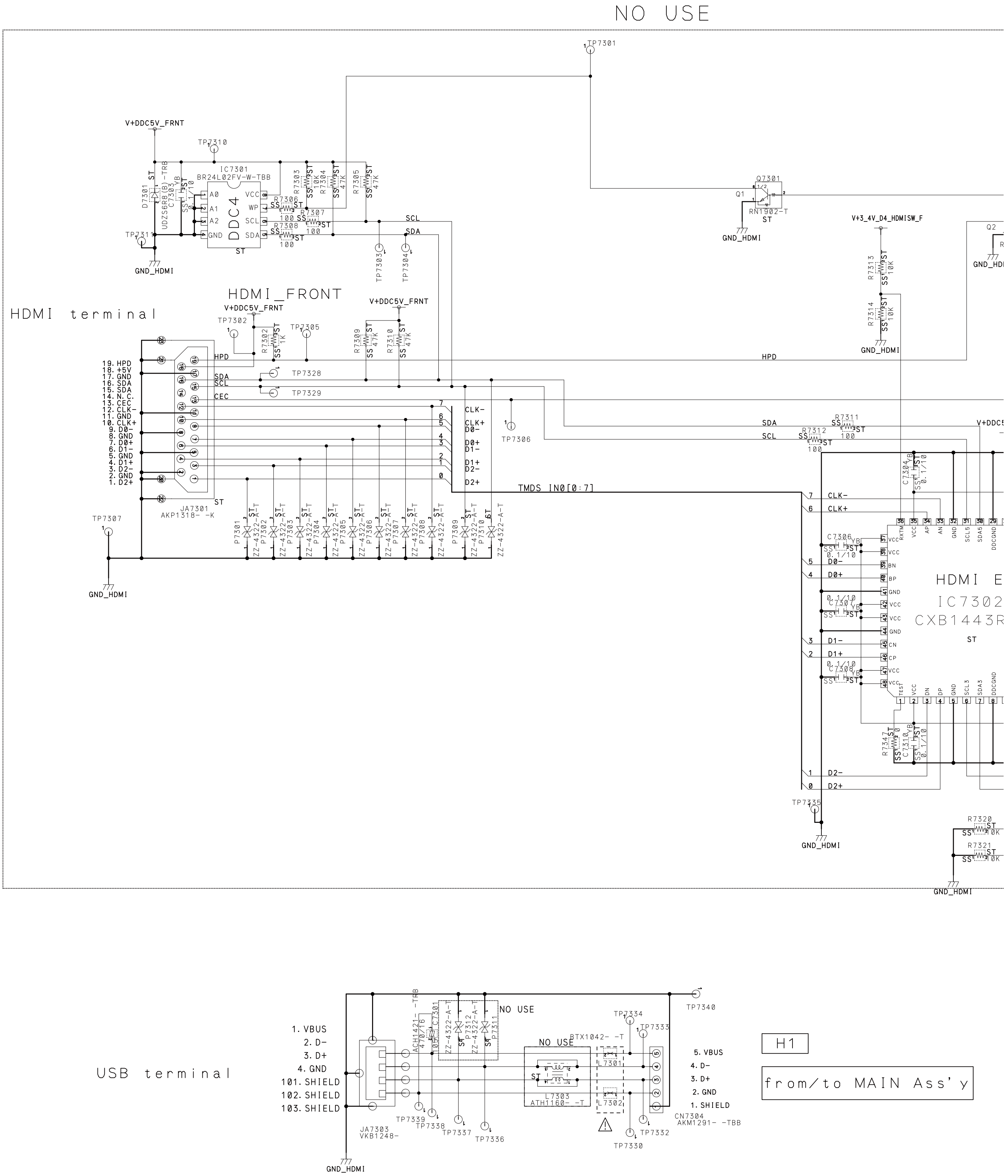

Gprobe
XX1299
CN7602
NO USE
from/to BOARD_IF_0
IF_UCOM
EMMA2
RXD_MD
TXD_MD
from EMMA2
SCL_EEP
SDA_EEP
EMMA2[0:163]
DP_TX_INT
RST_DP
RESET
I2C_SCL
I2C_SDA
UART_TX
UART_RX
DP_TX_SPI[0:3]
from MSP
I2S_OUT_CL
I2S_OUT_D
I2S_OUT_WS
SPDIF_DP
IC7601
S25FL016A0LMF013-TBB
X7601
ASS1225- -T
27MHZ
from/to IF_UCOM
REM
STB_MT
JA7601
AKP1340- -K
1. ML-0_P
2. GND
3. ML-0_N
4. ML-1_P
5. GND
6. ML-1_N
7. ML-2_P
8. GND
9. ML-2_N
10. ML-3_P
11. GND
12. ML-3_N
13. STB_MT
14. REM
15. AUX-CH_P
16. GND
17. AUX-CH_N
18. HPD_IN
19. GND
20. OPEN
SYSTEM CABLE
terminal
IC7603
GMT2404HROM-TBB
HDCP KEY ROM
DP_TX_HPD_IN
to IF_UCOM
EMMA2
DP_HPD
V+3_4V_AC2_DP_TX
V+3_4V_AC2_DP_TX_D
V+1_8V_ACT_DP_TX_D
V+3_4V_AC2_DP_TX_SLA
V+1_8V_ACT_DP_TX_SLA
V+3_4V_AC2_DP_TX_A
V+1_8V_ACT_DP_TX_A
GND

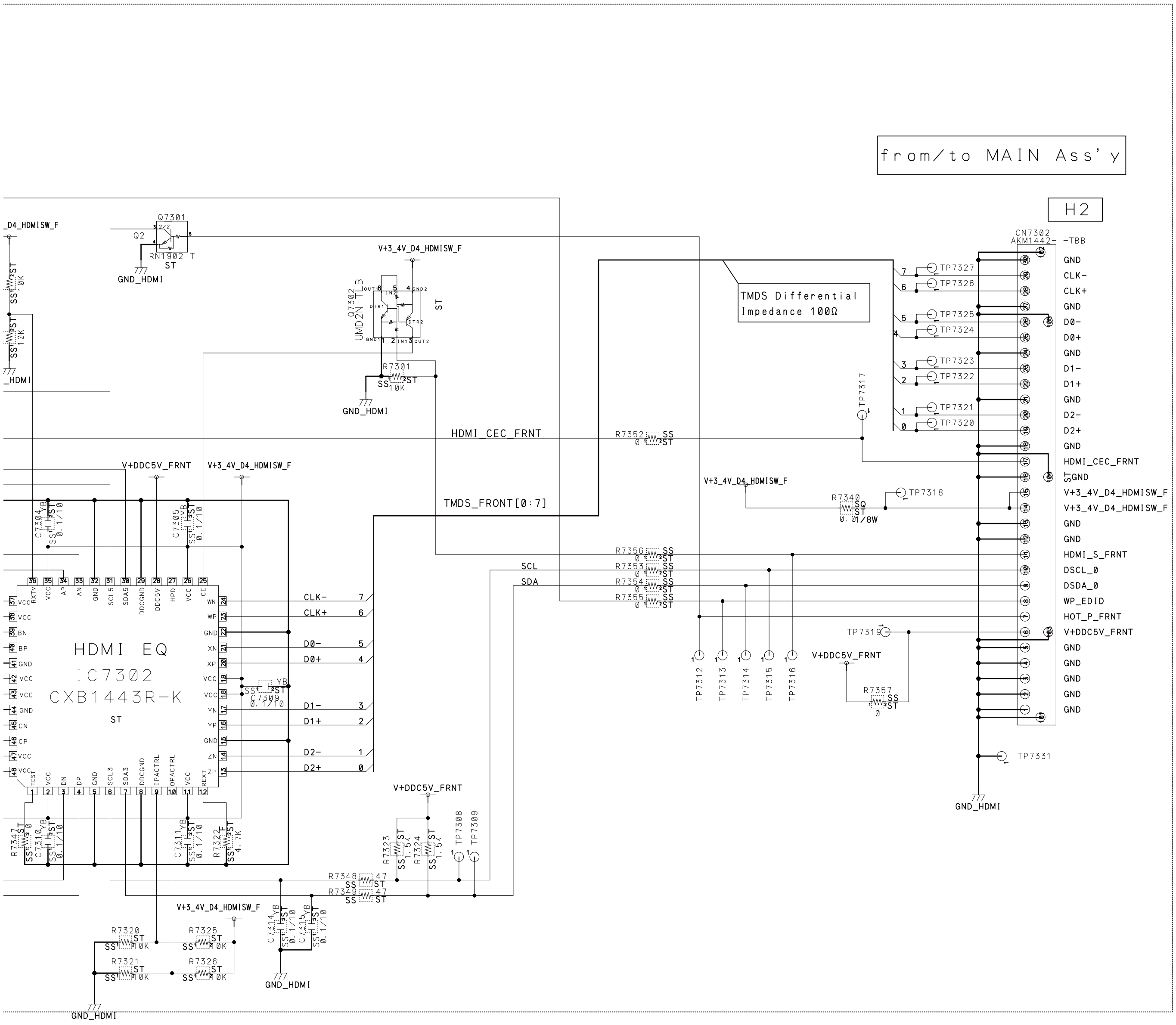
The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

MAIN ASSY (MR_IBD) (24/25)
DP_TX BLOCK

AWV2595- ; AWW1431

8.25 FRONT_HDM_USB ASSY


NO USE
TP7301
V+DDC5V_FRNT
TP7310
IC7301
BR24L02FV-W-TBB
DDC4
A0
A1
A2
GND
VCC
WP
SCL
SDA
D7301
UDZS6R8(B)-TRB
C7302
R7303 10K
R7304 47K
R7305 47K
R7306 100
R7307 100
R7308 100
TP7311
GND_HDMI
SCL
SDA
TP7303
TP7304
Q7301
Q1
RN1902-T
ST
V+3_4V_D4_HDMISW_F
R7313 10K
R7314 10K
Q2
HDMI_FRONT
HDMI terminal
V+DDC5V_FRNT
TP7302
R7302 1K
TP7305
R7309 47K
R7310 47K
19. HPD
18. +5V
17. GND
16. SDA
15. SDA
14. N.C.
13. CEC
12. CLK-
11. GND
10. CLK+
9. D0-
8. GND
7. D0+
6. D1-
5. GND
4. D1+
3. D2-
2. GND
1. D2+
HPD
SDA
SCL
CEC
TP7328
TP7329
CLK-
CLK+
D0-
D0+
D1-
D1+
D2-
D2+
TP7306
JA7301
AKP1318- -K
TP7307
P7301 ... P7310
ZZ-4322-A-T
TMDS IN0[0:7]
SDA
SCL
R7311 100
R7312 100
V+DDC5
C7304 0.1/10
C7306 0.1/10
C7307 0.1/10
C7308 0.1/10
C7310 0.1/10
R7347
HDMI E
IC7302
CXB1443R
RXTM
VCC
AP
AN
GND
SCL5
SDA5
DDCGND
BN
BP
CN
CP
TEST
DN
DP
SCL3
SDA3
TP7335
R7320 10K
R7321 10K
USB terminal
1. VBUS
2. D-
3. D+
4. GND
101. SHIELD
102. SHIELD
103. SHIELD
JA7303
VKB1248-
ACH1421- -TRB
C7301 470/16
P7311
P7312
ZZ-4322-A-T
NO USE
NO USE
BTX1042- -T
L7301
L7302
L7303
ATH1160- -T
TP7334
TP7333
TP7340
TP7339
TP7338
TP7337
TP7336
TP7330
TP7332
5. VBUS
4. D-
3. D+
2. GND
1. SHIELD
CN7304
AKM1291- -TBB
H1
from/to MAIN Ass'y


from/to MAIN Ass'y
H2
CN7302
AKM1442- -TBB
GND
CLK-
CLK+
GND
D0-
D0+
GND
D1-
D1+
GND
D2-
D2+
GND
HDMI_CEC_FRNT
GND
V+3_4V_D4_HDMISW_F
V+3_4V_D4_HDMISW_F
GND
GND
HDMI_S_FRNT
DSCL_0
DSDA_0
WP_EDID
HOT_P_FRNT
V+DDC5V_FRNT
GND
GND
GND
GND
GND
TMDS Differential Impedance 100Ω
TMDS_FRONT[0:7]
HDMI_CEC_FRNT
SCL
SDA
HDMI EQ
IC7302
CXB1443R-K
ST
Q7301
RN1902-T
Q7302
UMD2N-T_B
R7301 10K
GND_HDMI
V+DDC5V_FRNT
V+3_4V_D4_HDMISW_F
R7340 0.0 1/8W
R7352 0
R7353 0
R7354 0
R7355 0
R7356 0
R7357 0
R7348 47
R7349 47
R7320 10K
R7321 10K
R7325 10K
R7326 10K
R7322 4.7K
R7323 1.5K
R7324 1.5K
R7347
C7304 0.1/10
C7305 0.1/10
C7309 0.1/10
C7310 0.1/10
C7311 0.1/10
C7314 0.1/10
C7315 0.1/10
TP7308
TP7309
TP7312
TP7313
TP7314
TP7315
TP7316
TP7317
TP7318
TP7319
TP7320
TP7321
TP7322
TP7323
TP7324
TP7325
TP7326
TP7327
TP7331

IN Ass'y

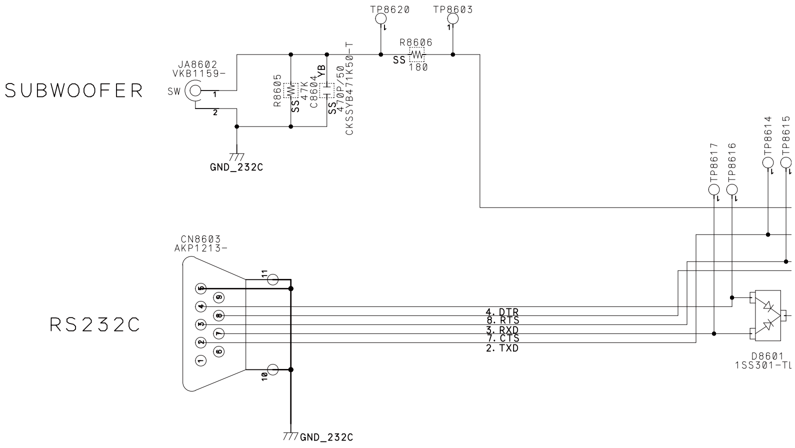
MODEL

ITEM	USED	VACANT
R	7301-7314, 7320-7326, 7340, 7347-7349, 7352-7357	7301-7314, 7320-7326, 7340, 7347-7349, 7352-7357
C	7301, 7303-7311, 7314, 7315	7303-7311, 7314, 7315
Q	7301, 7302	7301, 7302
IC	7301, 7302	7301, 7302
JA	7301, 7303	7301
CN	7302, 7304	7302
L	7301-7303	7303
D	7301	7301
P	7301-7312	7301-7312

MAIN ASSY (MR_IBD) (25/25)
FRONT_HDMI_USB BLOCK

AWV2595- ; AWW1432 (MR_IBD)

8.26 REAR IO ASSY


TP8620
TP8603
R8606
SS
180
JA8602
VKB1159-
SUBWOOFER
SW
1
2
R8605
SS
47K
C8604
YB
SS
470P/50
CKSSYB471K50-T
GND_232C
TP8617
TP8616
TP8614
TP8615
CN8603
AKP1213-
RS232C
11
10
5
9
4
8
3
7
2
6
1
4.DTR
8.RTS
3.RXD
7.CTS
2.TXD
D8601
1SS301-TL
GND_232C

RS232C

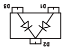
PIN No.	SIGNAL
1	N. C
2	TXD
3	RXD
4	DTR
5	GND
6	N. C
7	CTS
8	RTS
9	N. C

NOTES

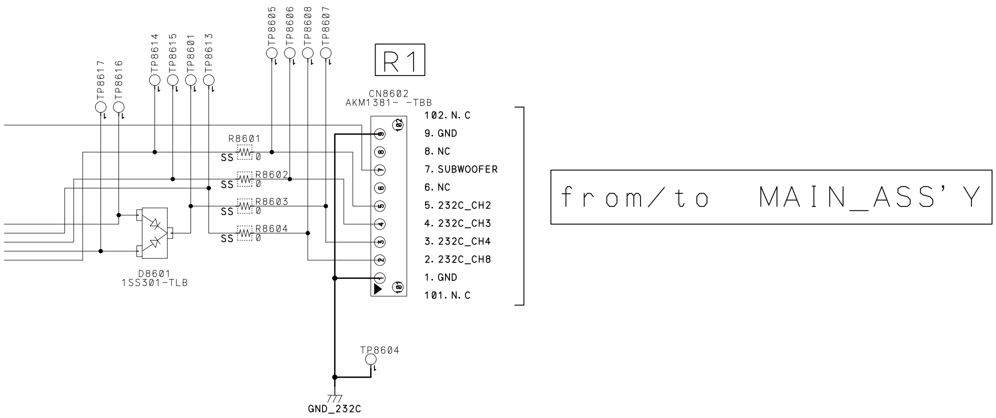
RESISTORS
SS RS1/16SS＊＊＊J-T

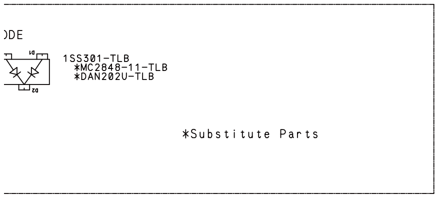
CAPACITORS
SS YB CKSSYB＊＊＊K＊＊-T

DIODE



1SS301-TLB
＊MC2848-11-TLB
＊DAN202U-TLB


R1
TP8617
TP8616
TP8614
TP8615
TP8601
TP8613
TP8605
TP8606
TP8608
TP8607
R8601
SS 0
R8602
SS 0
R8603
SS 0
R8604
SS 0
D8601
1SS301-TLB
CN8602
AKM1381- -TBB
102. N. C
9. GND
8. NC
7. SUBWOOFER
6. NC
5. 232C_CH2
4. 232C_CH3
3. 232C_CH4
2. 232C_CH8
1. GND
101. N. C
TP8604
GND_232C
from/to MAIN_ASS'Y


DE
D1
D2
1SS301-TLB
*MC2848-11-TLB
*DAN202U-TLB
*Substitute Parts

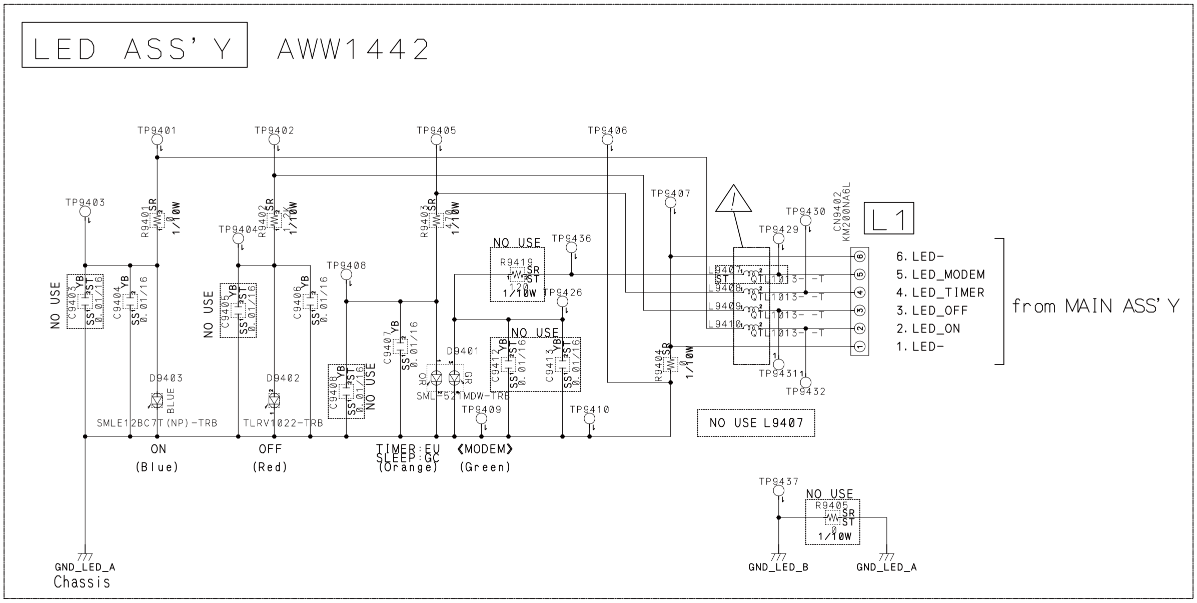
MODEL

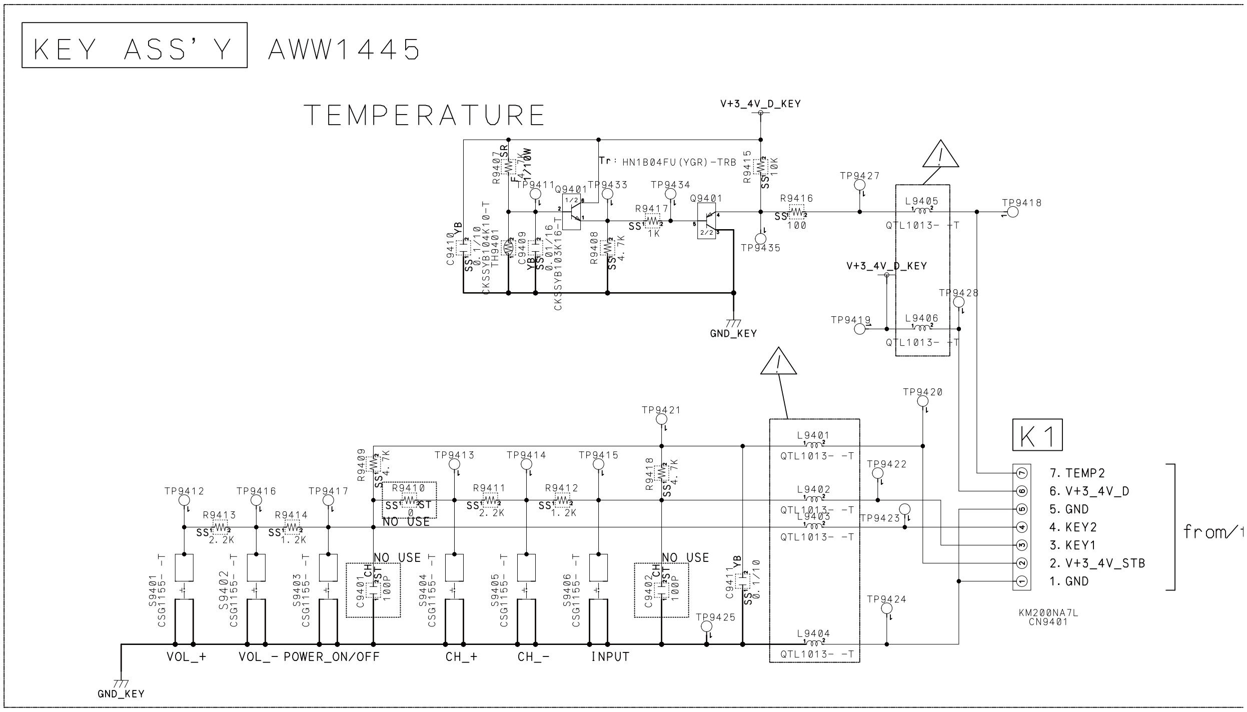
ITEM	USED	VACANT
R	8601-8606	
C	8604	
Q		
IC		
S		
JA	8602	
L		
D	8601	
CN	8602, 8603	

FUKUGOU ASSY (MR_IBD) (1/3)
REAR_IO ASSY

AWV2596-
AWW1461

8.27 LED AND KEY ASSYS


LED ASS'Y AWW1442
TP9401
TP9402
TP9405
TP9406
TP9403
TP9404
TP9407
TP9408
TP9409
TP9410
TP9426
TP9429
TP9430
TP9431
TP9432
TP9436
TP9437
R9401 SR 1/10W
R9402 SR 1/10W
R9403 SR 1/10W
R9404 SR 1/10W
R9419 SR ST 1/10W
NO USE R9405 SR ST 0 1/10W
C9403 YB ST 0.01/16
C9404 YB 0.01/16
C9405 YB ST 0.01/16
C9406 YB 0.01/16
C9407 YB 0.01/16
C9408 YB ST 0.01/16
C9411 YB ST 0.01/16
C9413 YB ST 0.01/16
NO USE
D9403 BLUE SMLE12BC7T(NP)-TRB
D9402 TLRV1022-TRB
D9401 SML-521MDW-TRB
ON (Blue)
OFF (Red)
TIMER:EU SLEEP:GC (Orange)
⟨MODEM⟩ (Green)
L9407
L9408
L9409
L9410
QTL1013- -T
NO USE L9407
CN9402 KM200NA6L
L1
6. LED-
5. LED_MODEM
4. LED_TIMER
3. LED_OFF
2. LED_ON
1. LED-
from MAIN ASS'Y
GND_LED_A
Chassis
GND_LED_B
GND_LED_A

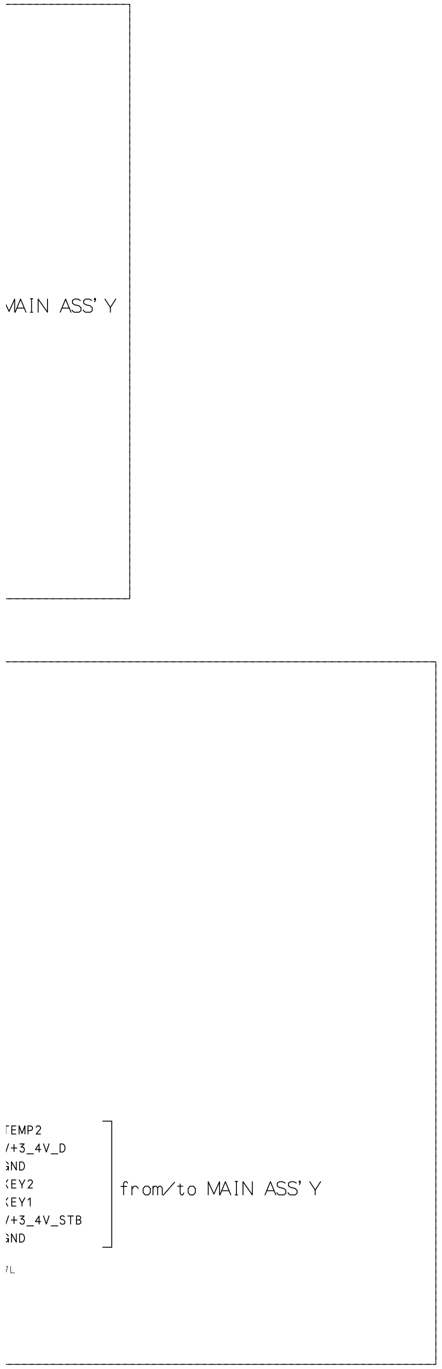

KEY ASS'Y AWW1445
TEMPERATURE
V+3_4V_D_KEY
Tr: HN1B04FU(YGR)-TRB
R9407 SR F 4.7K 1/10W
R9415 SS 10K
R9416 SS 100
R9417 SS 1K
R9408 SS 4.7K
C9410 YB SS 1/10
TH9401 CKSSYB104K10-T
C9409 YB SS 0.01/16 CKSSYB103K16-T
Q9401
TP9411
TP9433
TP9434
TP9435
TP9427
TP9418
TP9419
TP9428
L9405 QTL1013- -T
L9406 QTL1013- -T
GND_KEY
TP9420
TP9421
TP9422
TP9423
TP9424
TP9425
TP9412
TP9413
TP9414
TP9415
TP9416
TP9417
R9409 SS 4.7K
R9410 SS ST 0 NO USE
R9411 SS 2.2K
R9412 SS 1.2K
R9413 SS 2.2K
R9414 SS 1.2K
R9418 SS 4.7K
L9401 QTL1013- -T
L9402 QTL1013- -T
L9403 QTL1013- -T
L9404 QTL1013- -T
C9401 CH ST 100P NO USE
C9402 CH ST 100P NO USE
C9411 YB SS 0.1/10
S9401 CSG1155- -T
S9402 CSG1155- -T
S9403 CSG1155- -T
S9404 CSG1155- -T
S9405 CSG1155- -T
S9406 CSG1155- -T
VOL_+
VOL_-
POWER_ON/OFF
CH_+
CH_-
INPUT
GND_KEY
K1
7. TEMP2
6. V+3_4V_D
5. GND
4. KEY2
3. KEY1
2. V+3_4V_STB
1. GND
from/
KM200NA7L CN9401

The ⚠ mark f
should be rep
regulation a

N O T E S

RESISTORS
SR RS1/10SR∗∗∗J-T
F SR RS1/10SR∗∗∗∗F-T
SS RS1/16SS∗∗∗J-T

CAPACITORS
SS YB CKSSYB∗∗∗K∗∗-T


MAIN ASS' Y
TEMP2
/+3_4V_D
GND
KEY2
KEY1
/+3_4V_STB
GND
from/to MAIN ASS' Y
7L

The ⚠ mark found on some component parts should be replaced with same parts(safety regulation authorized) of identical designation.

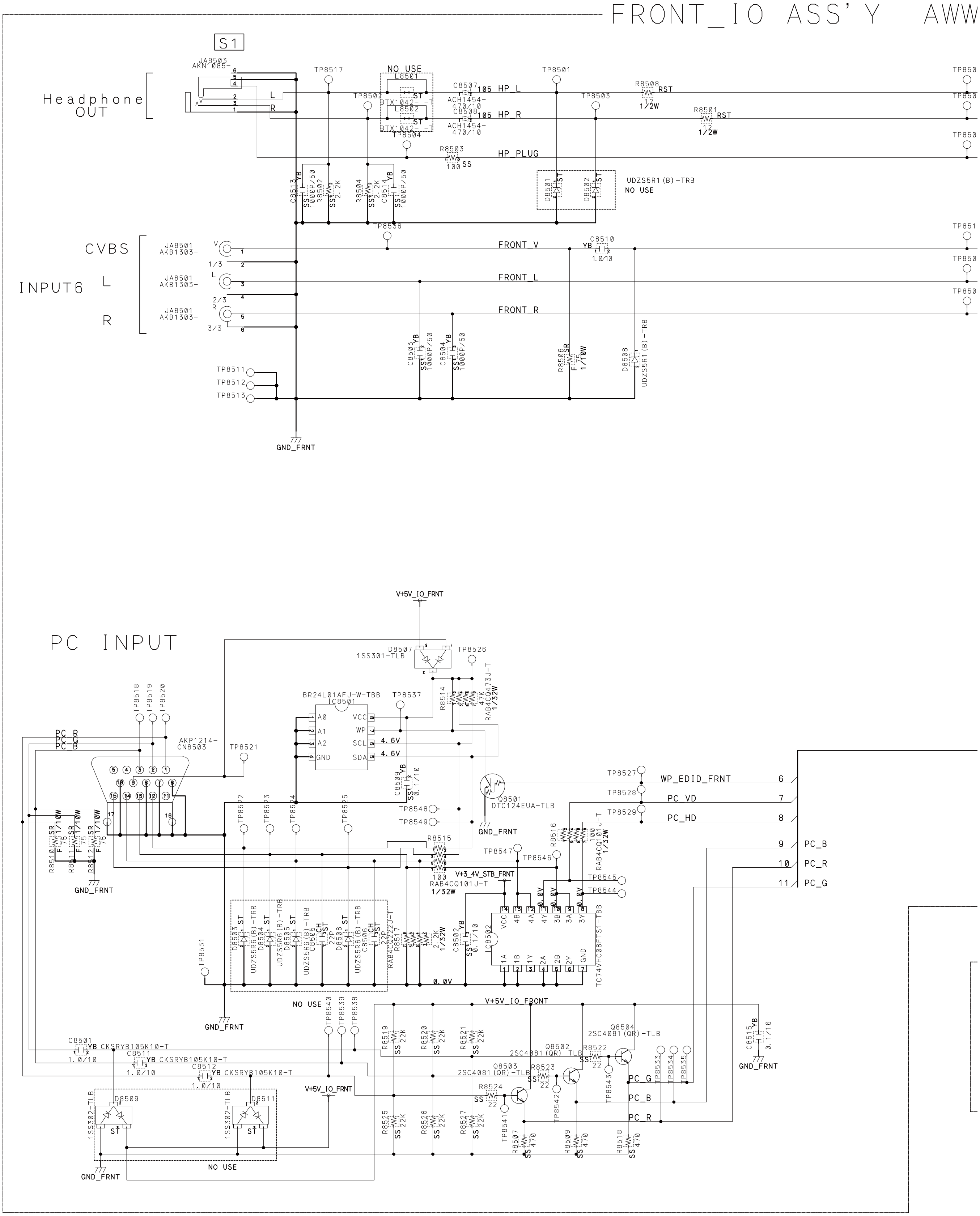
MODEL

ITEM	USED	VACANT
R	9401-9405, 9407-9419	9405, 9410, 9419
C	9401-9413	9401-9403, 9405, 9408, 9412, 9413
Q	9401	
IC		
S	9401-9406	
TH	9401	
L	9401-9410	9407
D	9401-9403	
CN	9401, 9402	

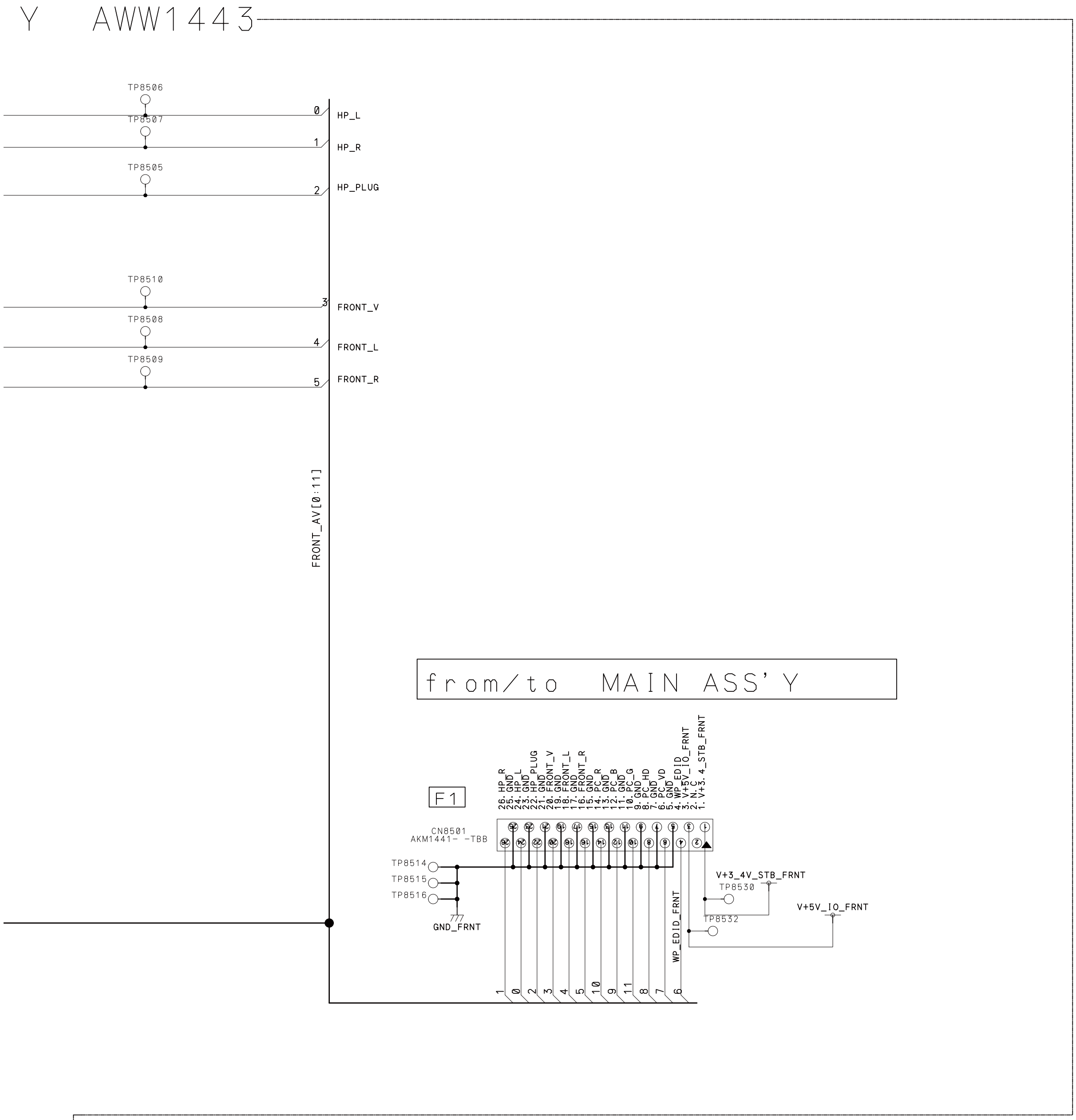
FUKUGOU ASS' Y (MR_IBD) (2/3)
LED ASS' Y
KEY ASS' Y

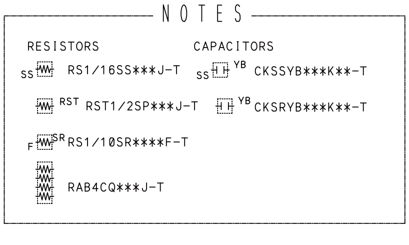
AWV2596-
AWW1442
AWW1445

8.28 FRONT IO ASSY



FRONT_IO ASS'Y AWW
S1
Headphone OUT
JA8503 AKN1085-
NO USE
L8501 BTX1042-T
L8502 BTX1042-T
C8507 ACH1454- 470/10
C8508 ACH1454- 470/10
HP_L
HP_R
HP_PLUG
R8503 100 SS
R8508 RST 1/2W
R8501 12 RST 1/2W
TP8517
TP8502
TP8504
TP8501
TP8503
C8513 YB 1000P/50
R8502 2.2K
R8504 2.2K
C8514 YB 1000P/50
D8501 ST
D8502 ST
UDZS5R1(B)-TRB
NO USE
CVBS
INPUT6
L
R
JA8501 AKB1303-
1/3
2/3
3/3
TP8556
FRONT_V
FRONT_L
FRONT_R
C8510 YB 1.0/10
C8503 YB 1000P/50
C8504 YB 1000P/50
R8506 75 SR 1/10W
D8508 UDZS5R1(B)-TRB
TP8511
TP8512
TP8513
GND_FRNT
PC INPUT
V+5V_IO_FRNT
D8507 1SS301-TLB
TP8526
BR24L01AFJ-W-TBB
IC8501
A0 A1 A2 GND VCC WP SCL SDA
4.6V
4.6V
TP8537
R8514 RAB4CQ473J-T 47K 1/32W
C8509 YB 0.1/10
AKP1214- CN8503
TP8518
TP8519
TP8520
TP8521
PC_R
PC_G
PC_B
Q8501 DTC124EUA-TLB
TP8527
TP8528
TP8529
WP_EDID_FRNT
PC_VD
PC_HD
PC_B
PC_R
PC_G
TP8548
TP8549
R8515 RAB4CQ101J-T 100 1/32W
V+3_4V_STB_FRNT
TP8547
TP8546
R8516 RAB4CQ101J-T 100 1/32W
TP8545
TP8544
0.0V
IC8502 TC74VHC08FTS1-TBB
VCC 4B 4A 4Y 3B 3A 3Y 1A 1B 1Y 2A 2B 2Y GND
R8510 75 SR 1/10W
R8511 75 SR 1/10W
R8512 75 SR 1/10W
TP8522
TP8523
TP8524
TP8525
D8503 ST
D8504 ST
D8505 ST
D8506 ST
UDZS5R6(B)-TRB
C8505 22P CH
C8506 22P CH
R8517 RAB4CQ222J-T 2.2K 1/32W
C8502 YB 0.1/10
TP8531
0.0V
NO USE
TP8540
TP8539
TP8538
V+5V_IO_FRONT
C8501 YB CKSRYB105K10-T 1.0/10
C8511 YB CKSRYB105K10-T 1.0/10
C8512 YB CKSRYB105K10-T 1.0/10
V+5V_IO_FRNT
D8509 1SS302-TLB ST
D8511 1SS302-TLB ST
NO USE
R8519 22K SS
R8520 22K SS
R8521 22K SS
R8525 22K SS
R8526 22K SS
R8527 22K SS
Q8502 2SC4081(QR)-TLB
Q8503 2SC4081(QR)-TLB
Q8504 2SC4081(QR)-TLB
R8522 22 SS
R8523 22 SS
R8524 22 SS
TP8541
TP8542
TP8543
TP8533
TP8534
TP8535
R8507 470 SS
R8509 470 SS
R8518 470 SS
C8515 YB 0.1/16
GND_FRNT


Y AWW1443
TP8506
TP8507
TP8505
TP8510
TP8508
TP8509
0 HP_L
1 HP_R
2 HP_PLUG
3 FRONT_V
4 FRONT_L
5 FRONT_R
FRONT_AV[0:11]
from/to MAIN ASS'Y
F1
CN8501
AKM1441- -TBB
26. HP_R
25. GND
24. HP_L
23. GND
22. HP_PLUG
21. GND
20. FRONT_V
19. GND
18. FRONT_L
17. GND
16. FRONT_R
15. GND
14. PC_R
13. GND
12. PC_B
11. GND
10. PC_G
9. GND
8. PC_HD
7. GND
6. PC_VD
5. GND
4. WP_EDID
3. V+5V_IO_FRNT
2. N.C
1. V+3.4_STB_FRNT
TP8514
TP8515
TP8516
GND_FRNT
V+3_4V_STB_FRNT
TP8530
V+5V_IO_FRNT
TP8532
WP_EDID_FRNT
1
0
2
3
4
5
10
9
11
8
7
6


NOTES
RESISTORS
SS RS1/16SS***J-T
RST RST1/2SP***J-T
F SR RS1/10SR****F-T
RAB4CQ***J-T
CAPACITORS
SS YB CKSSYB***K**-T
YB CKSRYB***K**-T

MODEL

ITEM	USED	VACANT
R	8501-8504, 8506-8512, 8514-8527	
C	8501-8515	8505, 8506, 8509
Q	8501-8504	
IC	8501, 8502	
F		
JA	8501, 8503	
L	8501, 8502	8501, 8502
D	8501-8509, 8511	8501-8506, 8509, 8511
CN	8501, 8503	

FUKUGOU ASS'Y (MR_IBD) (3/3)
FRONT ASS'Y

AWV2596-
AWW1443

8.29 VOLTAGES AND WAVEFORMS

[1] VOLTAGES

MAIN BLOCK Assy **FRONT_HDM_USB Assy**

M13 CN4004 (AKM1276- -TBB)		Voltage (V)	H1 CN7304 (AKM1291- -TBB)	
NO.	Name		Name	NO.
1	SHIELD	0	SHIELD	1
2	GND	0	GND	2
3	D+	0	D+	3
4	D-	0	D-	4
5	VBUS	5.1	VBUS	5

MAIN BLOCK Assy **REAR IO Assy**

M16 CN4002 (AKM1378- -TBB)		Voltage (V)	R1 CN8602 (AKM1381- -TBB)	
NO.	Name		Name	NO.
1	GND	0	GND	9
2	N.C.	0	N.C.	8
3	SUBWOOFER	0	SUBWOOFER	7
4	N.C.	0	N.C.	6
5	232C_CH2	-5.5	232C_CH2	5
6	232C_CH3	-8.3	232C_CH3	4
7	232C_CH4	0	232C_CH4	3
8	232C_CH8	5.6	232C_CH8	2
9	GND	0	GND	1

MAIN BLOCK Assy **LED Assy**

M2 CN4204 (AKW1343- -TBB)		Voltage (V)	L1 CN9402 (KM200NA6L)	
NO.	Name		Name	NO.
1	OPEN	0		
2	OPEN	0		
3	TEMP2	2.1		
4	GND	0		
5	KEY1	3.4		
6	GND	0		
7	LED-	0	LED-	6
8	LED_TIMER	3.3/0	LED_TIMER	4
9	LED_ON	2.8/0	LED_ON	2
10	OPEN	0		
11	OPEN	0		
12	LED-	0	LED-	1
13	LED_OFF	3.3/0	LED_OFF	3
14	LED_MODEM(LED-)	0	LED_MODEM	5
15	OPEN	0		
16	V+3_4V_STB	3.4		
17	KEY2	3.4		
18	V+3_4V_D	3.3		
19	OPEN	0		
20	OPEN	0		

MAIN BLOCK Assy **KEY Assy**

M2 CN4204 (AKW1343- -TBB)		Voltage (V)	K1 CN9401 (KM200NA7L)	
NO.	Name		Name	NO.
1	OPEN	0		
2	OPEN	0		
3	TEMP2	2.1	TEMP2	7
4	GND	0	GND	5
5	KEY1	3.4	KEY1	3
6	GND	0	GND	1
7	LED-	0		
8	LED_TIMER	3.3/0		
9	LED_ON	2.8/0		
10	OPEN	0		
11	OPEN	0		
12	LED-	0		
13	LED_OFF	3.3/0		
14	LED_MODEM(LED-)	0		
15	OPEN	0		
16	V+3_4V_STB	3.4	V+3_4V_STB	2
17	KEY2	3.4	KEY2	4
18	V+3_4V_D	3.3	V+3_4V_D	6
19	OPEN	0		
20	OPEN	0		

MAIN BLOCK Assy **FAN**

M31 CN4201 (AKM1276- -TBB)		Voltage (V)		
NO.	Name		Name	NO.
1	N.C.	0		
2	FAN_VCC2	7.0/8.9	VCC	
3	FAN_NEG2	0.1	NG	
4	GND	0	GND	
5	N.C.	0		

MAIN BLOCK Assy **FRONT IO Assy**

M12 CN4003 (AKM1441- -TBB)		Voltage (V)	F1 CN8501 (AKM1441- -TBB)	
NO.	Name		Name	NO.
1	HP_R	2.1	HP_R	26
2	GND	0	GND	25
3	HP_L	2.1	HP_L	24
4	GND	0	GND	23
5	HP_PLUG	0/3.1	HP_PLUG	22
6	GND	0	GND	21
7	FRONT_V	2.5	FRONT_V	20
8	GND	0	GND	19
9	FRONT_L	-0.2 / 0.2	FRONT_L	18
10	GND	0	GND	17
11	FRONT_R	-0.2 / 0.2	FRONT_R	16
12	GND	0	GND	15
13	PC_R	1.8	PC_R	14
14	GND	0	GND	13
15	PC_B	1.8	PC_B	12
16	GND	0	GND	11
17	PC_G	1.8	PC_G	10
18	GND	0	GND	9
19	PC_HD	0/3.4	PC_HD	8
20	GND	0	GND	7
21	PC_VD	0/3.4	PC_VD	6
22	GND	0	GND	5
23	WP_EDID	0	WP_EDID	4
24	V+5V_IO_FRONT	5.0	V+5V_IO_FRONT	3
25	N.C	0	N.C	2
26	V+3_4V_STB_FRONT	3.4	V+3_4V_STB_FRONT	1

MAIN BLOCK Assy **POWER SUPPLY Unit**

M1 CN4203 (AKM1440-)		Voltage (V)	P2 (B26B-PNDZ-1)		Voltage (V)
NO.	Name		Name	NO.	
1	V+17V	19.1	V+5_1V_STB	26	4.9
2	V+5_1V_STB	4.9	V+17V	25	19.1
3	GND	0	GND	24	0
4	GND	0	GND	23	0
5	V+12V	13.0	V+12V	22	13.0
6	V+12V	13.0	V+12V	21	13.0
7	GND	0	GND	20	0
8	GND	0	GND	19	0
9	V+6_5V	6.6	V+6_5V	18	6.6
10	V+6_5V	6.6	V+6_5V	17	6.6
11	V+6_5V	6.6	V+6_5V	16	6.6
12	V+6_5V	6.6	V+6_5V	15	6.6
13	GND	0	GND	14	0
14	GND	0	GND	13	0
15	GND	0	GND	12	0
16	GND	0	GND	11	0
17	V+3_4V_STB	3.4	V+3_4V_STB	10	3.4
18	V+3_4V_STB	3.4	V+3_4V_STB	9	3.4
19	V+3_4V_STB	3.4	V+3_4V_STB	8	3.4
20	V+3_4V_STB	3.4	V+3_4V_STB	7	3.4
21	GND	0	V+3_4V_STB	6	3.4
22	V+3_4V_STB	3.4	GND	5	0
23	PD_TRG	0	GND	4	0
24	GND	0	PD_TRG	3	0
25	AC_DET	3.1	RELAY	2	3.1
26	RELAY	3.2	AC_DET	1	3.2

[2] WAVEFORMS

Refer to the section “3.2 DIAGNOSIS FLOWCHART OF FAILURE ANALYSIS” .

9. PCB CONNECTION DIAGRAM

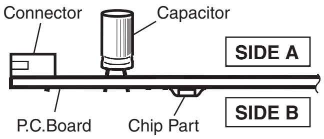
9.1 MAIN BLOCK AND FRONT_HDM_USB ASSYS

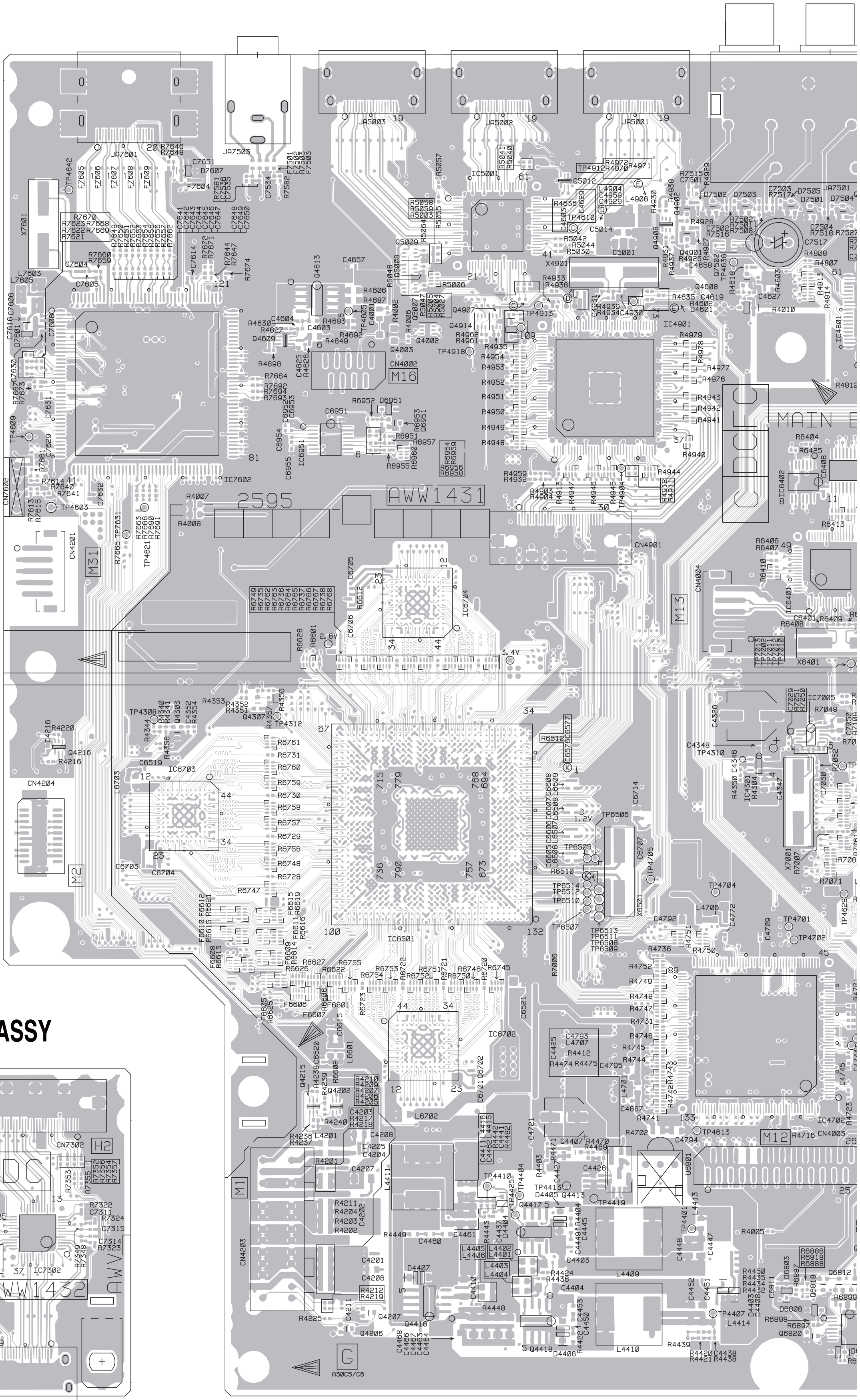
SIDE A

MAIN BLOCK ASSY

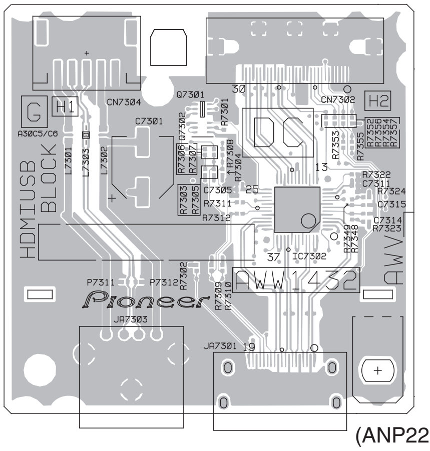
NOTE FOR PCB DIAGRAMS :

1. The parts mounted on this PCB include all necessary parts for several destinations. For further information for respective destinations, be sure to check with the schematic diagram.
2. View point of PCB diagrams.


Connector
Capacitor
SIDE A
SIDE B
P.C.Board
Chip Part

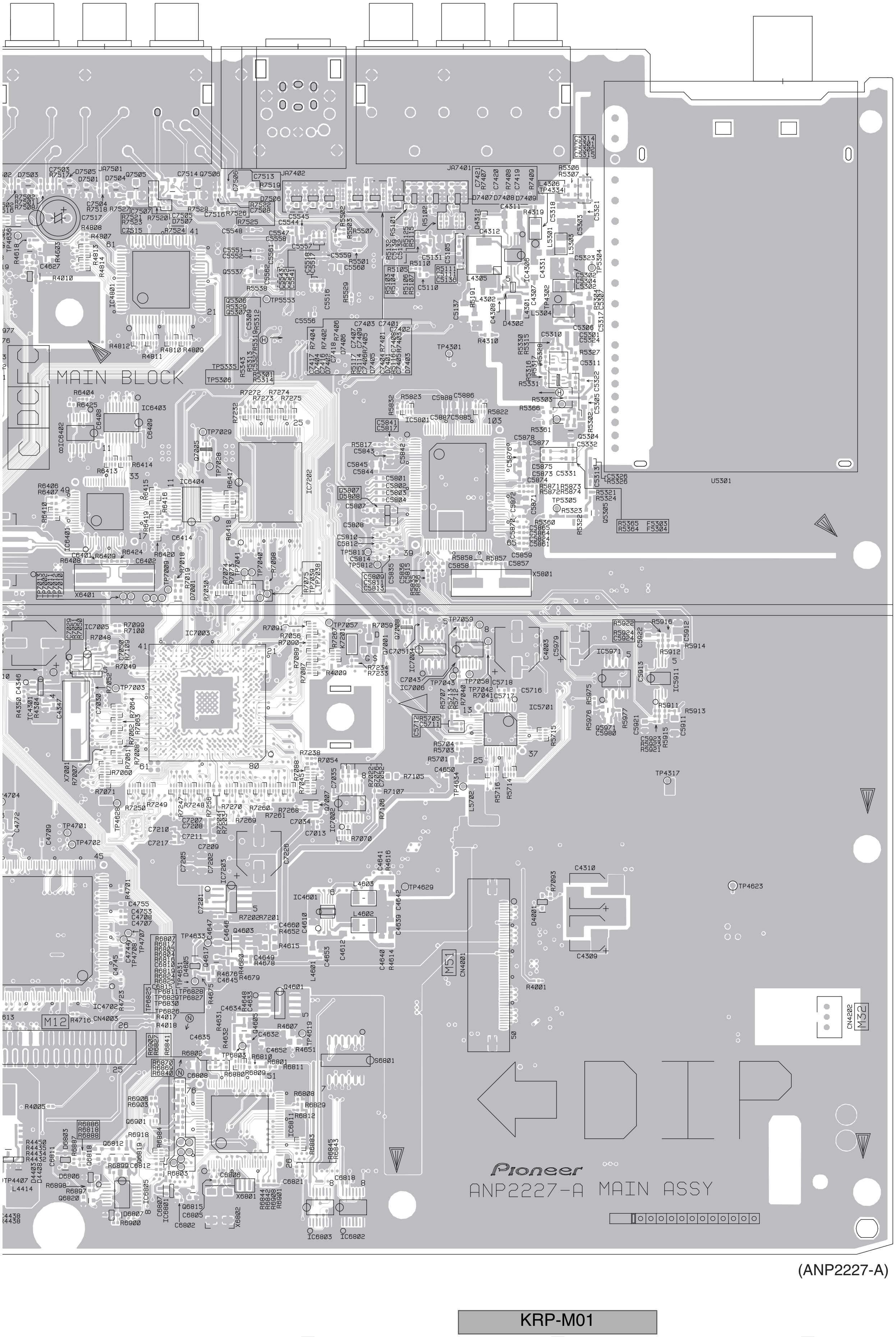

JA7601
JA7503
JA5003
JA5002
JA5001
JA7501
IC5002
IC4901
IC4601
IC7602
IC6951
IC6704
IC6703
IC6501
IC6702
IC6401
IC4301
IC7005
IC4702
CN4201
CN4204
CN4002
CN4901
CN4004
CN4203
CN4003
M16
M31
M13
M2
M1
M12
MAIN
2595
AWW1431
X4901
X6401
X6501
X7001
X7601
2.6V
3.4V
1.2V
G
A30C5/C6

FRONT_HDM_USB ASSY


HDMIUSB BLOCK
AWW1432
Pioneer
CN7304
CN7302
IC7302
JA7303
JA7301
G
H1
H2
A30C5/C6
P7311
P7312

(ANP2227-A)

SIDE A

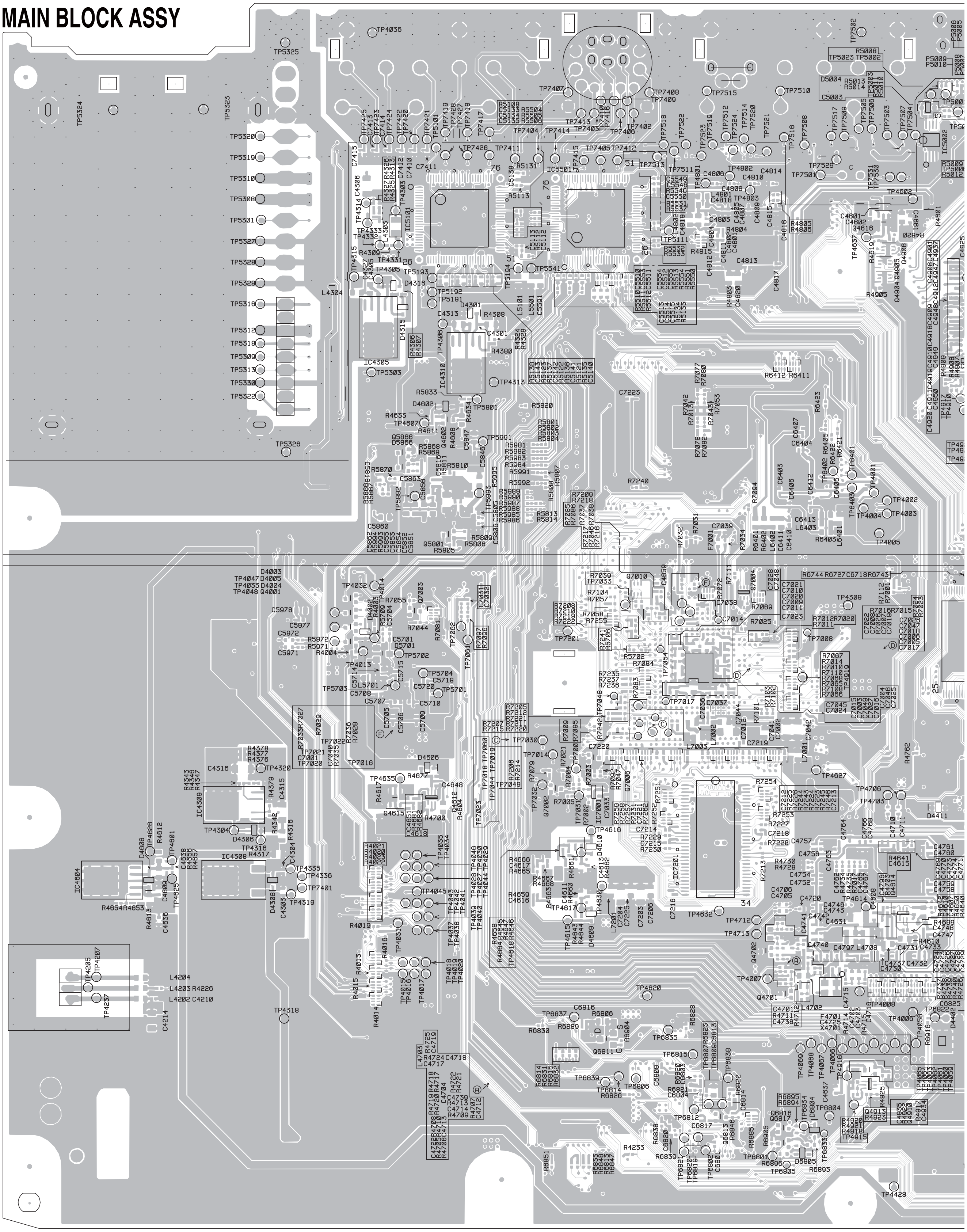

MAIN BLOCK
DIP
Pioneer
ANP2227-A MAIN ASSY
M12
M51
M32
U5301
IC7003
IC7202
IC5801
IC4601
CN4001
CN4002
CN4202
X6401
X5801
S6801
JA7401
JA7402

(ANP2227-A)

SIDE B

A

MAIN BLOCK ASSY


TP4036
TP5325
TP5324
TP5323
TP5320
TP5319
TP5310
TP5308
TP5301
TP5327
TP5328
TP5329
TP5316
TP5312
TP5318
TP5309
TP5313
TP5330
TP5322
TP5326
IC5101
IC5501
IC4305
IC4310
IC4309
IC4308
IC4604
IC7001
IC7201
IC5002
L4304
TP7502
TP7510
TP7515
TP7408
TP7409
TP4309
TP4428
TP4318
TP4620
L4204
L4203 R4226
L4202 C4210
TP4205
TP4207
TP4237
C4214

B

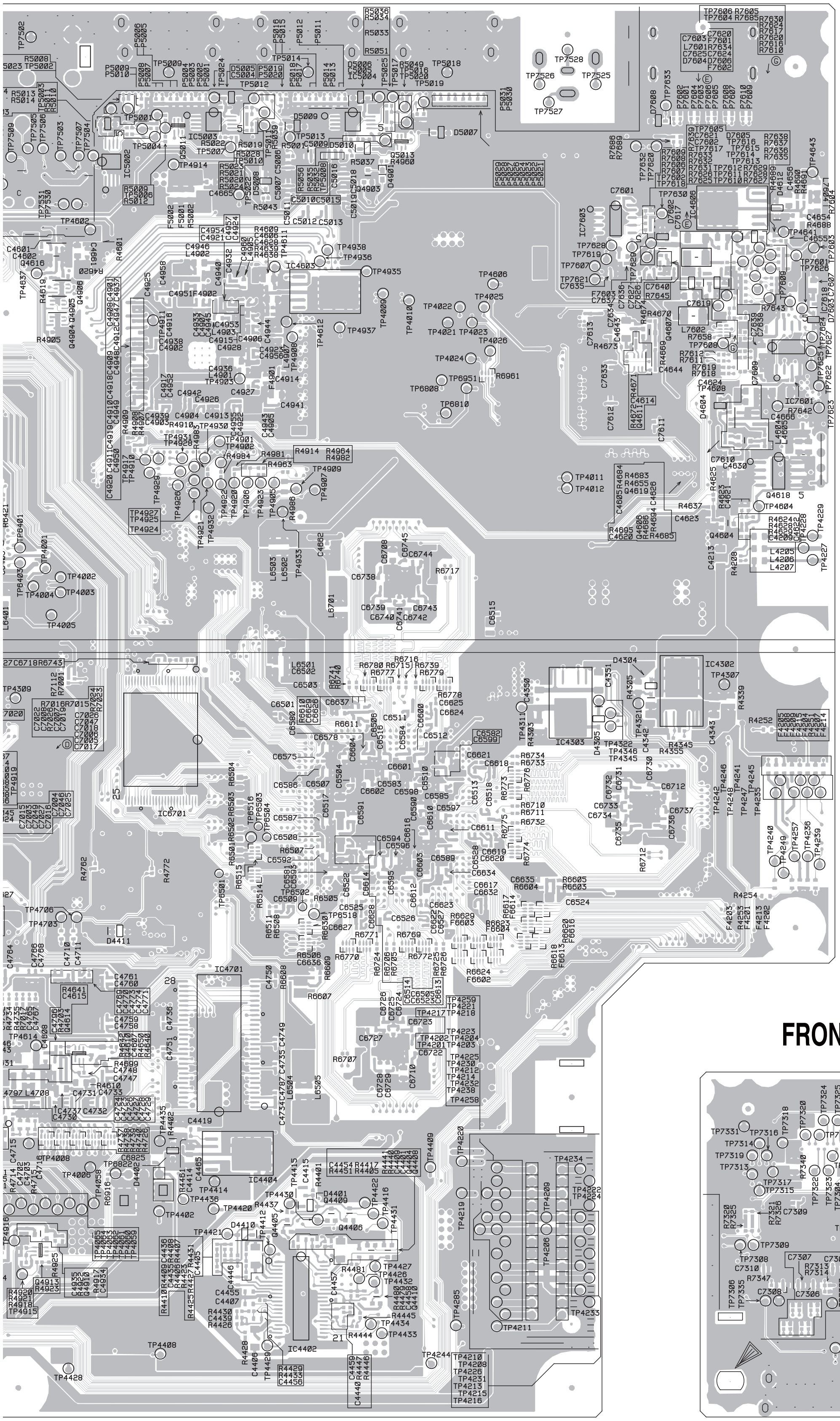
C

D

E

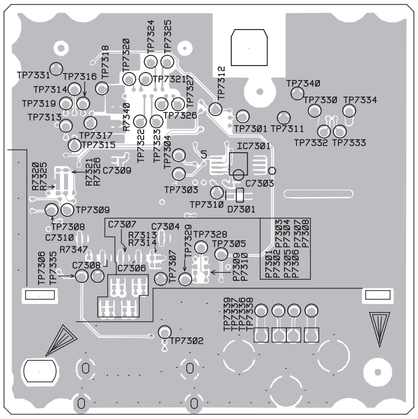
F

SIDE B



(ANP2227-A)

FRONT_HDM_USB ASSY

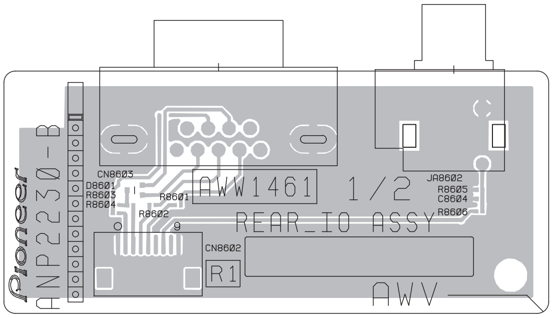


(ANP2227-A)

9.2 REAR IO, FRONT IO, LED AND KEY ASSYS

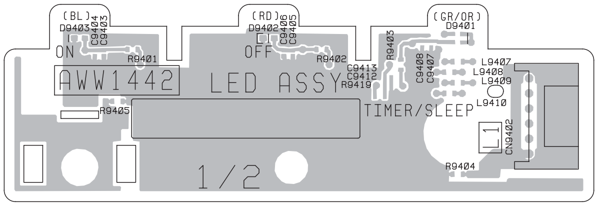
SIDE A **SIDE A**

REAR IO ASSY


ANP2230-B
Pioneer
CN8603
D8601
R8603
R8604
R8601
R8602
AWW1461
1/2
JA8602
R8605
C8604
R8606
REAR_IO ASSY
CN8602
R1
AWV
9

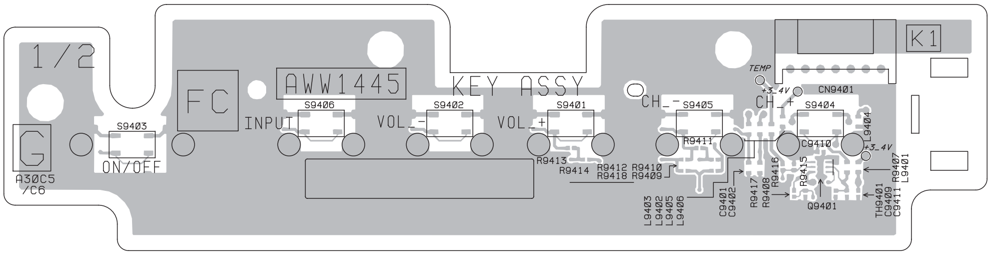
(ANP2230-B)

LED ASSY


(BL)
D9403
C9404
C9405
ON
R9401
(RD)
D9402
C9406
C9405
OFF
R9402
(GR/OR)
D9401
R9403
C9413
C9412
R9419
C9408
C9407
L9407
L9408
L9409
L9410
AWW1442
LED ASSY
R9405
TIMER/SLEEP
CN9402
L1
R9404
1/2

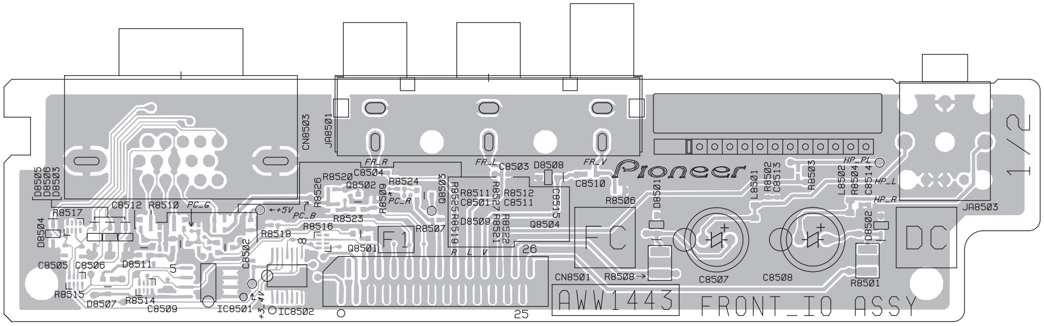
(ANP2230-B)

KEY ASSY


1/2
FC
AWW1445
KEY ASSY
K1
TEMP
CN9401
G
A30C5
/C6
S9403
ON/OFF
S9406
INPUT
S9402
VOL_-
S9401
VOL_+
CH_-
S9405
CH_+
S9404
R9411
C9410
R9404
R9413
R9414
R9412
R9418
R9410
R9409
L9403
L9402
L9405
L9406
C9401
C9402
R9417
R9408
R9416
R9415
Q9401
TH9401
C9409
C9411
R9407
L9401
+3.4V

(ANP2230-B)

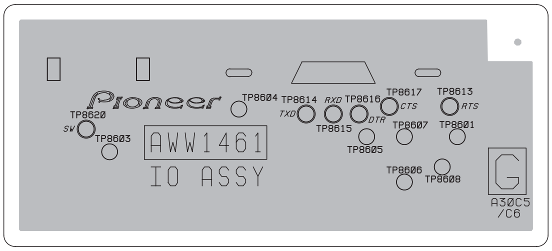
FRONT IO ASSY


CN8503
JA8501
D8505
D8506
D8503
R8517
D8504
C8505
C8506
R8515
D8507
R8514
C8509
C8512
R8510
PC_G
D8511
C8502
IC8501
IC8502
+5V
PC_B
R8518
R8516
R8523
R8526
R8520
C8504
Q8502
R8509
R8524
PC_R
Q8503
FR_R
FR_L
C8503
D8508
FR_V
R8511
C8501
R8512
C8511
C8510
C8515
R8507
D8509
Q8504
Q8501
F1
26
25
CN8501
AWW1443
FRONT_IO ASSY
R8506
D8501
FC
R8508
C8507
C8508
Pioneer
L8501
R8502
C8513
R8503
L8502
R8504
C8514
HP_PL
HP_L
HP_R
D8502
DC
R8501
JA8503
1/2

(ANP2230-B)

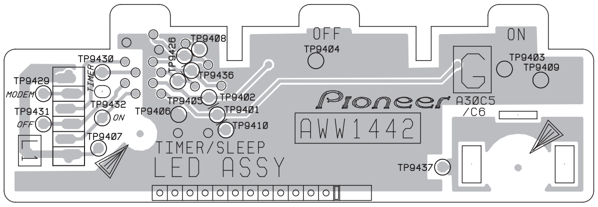
SIDE B **SIDE B**

REAR IO ASSY


TP8620
SW
TP8603
Pioneer
AWW1461
IO ASSY
TP8604
TP8614
TXD
RXD
TP8615
TP8616
DTR
TP8605
TP8617
CTS
TP8607
TP8613
RTS
TP8601
TP8606
TP8608
G
A30C5
/C6

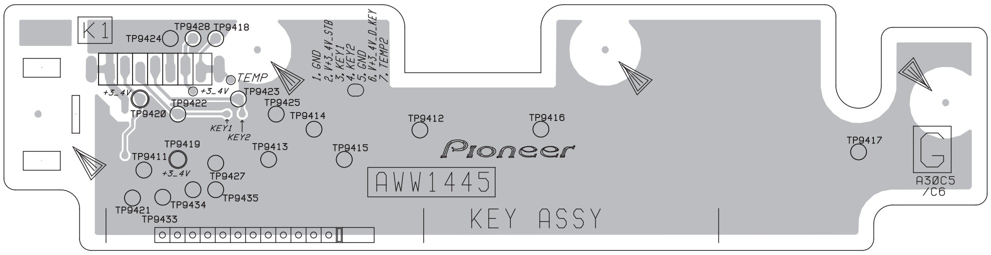
(ANP2230-B)

LED ASSY


TP9429
MODEM
TP9431
OFF
L1
TP9430
TIMER
TP9432
ON
TP9407
TP9426
TP9408
TP9436
TP9405
TP9402
TP9406
TP9401
TP9410
TIMER/SLEEP
LED ASSY
OFF
TP9404
Pioneer
AWW1442
ON
G
A30C5
/C6
TP9403
TP9409
TP9437

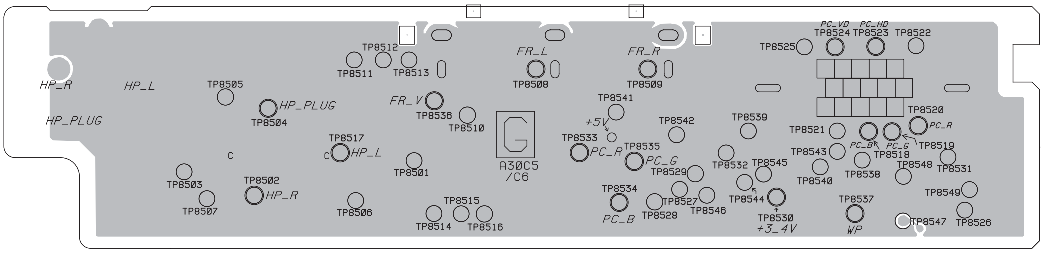
(ANP2230-B)

KEY ASSY


K1
TP9424
TP9428
TP9418
TEMP
+3_4V
+3_4V
TP9423
TP9422
TP9420
TP9425
KEY1
KEY2
TP9414
1. GND
2. V+3_4V_STB
3. KEY1
4. KEY2
5. GND
6. V+3_4V_D_KEY
7. TEMP2
TP9419
TP9411
+3_4V
TP9427
TP9413
TP9415
TP9421
TP9434
TP9435
TP9433
TP9412
TP9416
Pioneer
AWW1445
KEY ASSY
TP9417
G
A30C5
/C6

(ANP2230-B)

FRONT IO ASSY


HP_R
HP_L
HP_PLUG
TP8505
HP_PLUG
TP8504
TP8512
TP8511
TP8513
FR_L
TP8508
FR_R
TP8509
FR_V
TP8536
TP8510
TP8517
C
C
HP_L
TP8501
TP8503
TP8507
TP8502
HP_R
TP8506
TP8515
TP8514
TP8516
G
A30C5
/C6
TP8541
+5V
TP8533
PC_R
TP8535
PC_G
TP8529
TP8534
PC_B
TP8527
TP8528
TP8546
TP8542
TP8539
TP8532
TP8545
TP8544
TP8530
+3_4V
TP8525
PC_VD
TP8524
PC_HD
TP8523
TP8522
TP8520
PC_R
TP8521
TP8543
PC_B
PC_G
TP8519
TP8518
TP8540
TP8538
TP8548
TP8531
TP8537
WP
TP8549
TP8547
TP8526

(ANP2230-B)

10. PCB PARTS LIST

NOTES:
- *Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47 k ohm (tolerance is shown by J = 5%, and K = 10%).

560 Ω → 56×10^1 → 561 ············ RD1/4PU $\boxed{5}\boxed{6}\boxed{1}$ J
47 kΩ → 47×10^3 → 473 ············ RD1/4PU $\boxed{4}\boxed{7}\boxed{3}$ J
0.5 Ω → R50 ············ RN2H $\boxed{R}\boxed{5}\boxed{0}$ K
1 Ω → 1R0 ············ RS1P $\boxed{1}\boxed{R}\boxed{0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62 kΩ → 562×10^1 → 5621 ············ RN1/4PC $\boxed{5}\boxed{6}\boxed{2}\boxed{1}$ F

- *Meaning of the figures and others in the parentheses in the parts list.*

Example) IC 301 is on the point (face A, 91 of x-axis, and 111 of y-axis) of the corresponding PC board.
IC 301 (A, 91, 111) IC NJM2068V

LIST OF ASSEMBLIES

Mark	No. Description	Part No.
NSP	1..MAIN ASSY (GC MR)	AWV2595
	2..MAIN BLOCK ASSY (GC MR)	AWW1431
	2..FRONT_HDM_USB ASSY (GC MR)	AWW1432
NSP	1..FUKUGO ASSY (GC MR)	AWV2596
	2..LED ASSY (EU MR)	AWW1442
	2..FRONT IO ASSY (EU MR)	AWW1443
	2..KEY ASSY (EU MR)	AWW1445
	2..REAR IO ASSY (GC MR)	AWW1461
⚠	1..POWER SUPPLY UNIT	AXY1223

Unit Name: MAIN BLOCK ASSY(GC MR)

Block Name: BOARD_IF_0 BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 4001		2SA1576A
	Q 4002		UMD2N
	Q 4003		2SD2114K
	D 4001,4002		1SS352
	D 4003-4005		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
	CN 4001	50P CONNECTOR	AKM1399
	CN 4002	FFC CONNECTOR 9P	AKM1378
	CN 4003	FFC CONNECTOR 26P	AKM1441
	CN 4004	CONNECTOR	AKM1276

RESISTORS

Mark	No.	Description	Part No.
	R 4013,4016		RAB4CQ101J
	R 4014,4015,4020,4022		RAB4CQ220J
	R 4021		RAB4CQ0R0J
	R 4023		RAB4CQ220J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4001		DCH1201
	C 4003		ACH1421

Block Name: BOARD_IF_1 BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 4202		RN1902
	Q 4206,4207		DTC124EUA
	Q 4215		HN1A01FU
	Q 4216		RN2902

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4201	CHIP BEEDS FILTER	BTX1039
⚠	L 4205-4207	CHIP BEEDS FILTER	BTX1042
⚠	F 4201-4205,4207-4209	INDUCTOR	CTF1557
⚠	F 4213-4215	INDUCTOR	CTF1557
	CN 4201	CONNECTOR	AKM1276

RESISTORS

Mark	No.	Description	Part No.
	R 4201-4207,4209-4211		RS1/8SQ0R0J
	R 4217,4218		RS1/8SQ0R0J
	R 4251,4253		RS1/10SR0R0J
	R 4252,4254		RS1/10SR102J

Mark	No.	Description	Part No.
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 4203		CKSSYB102K50
	C 4208		DCH1201
	C 4211		CKSSYB103K16
	C 4216		CKSSYB104K10

Block Name: POWER_0 BLOCK(GC)

SEMICONDUCTORS

	IC 4301		R5523N001B
	IC 4302,4309		PQ200WNA1ZPH
	IC 4305,4310		NJM2846DL3-05
	IC 4306		BD8903FV
	IC 4308		NJM78M12DL1A
	Q 4303		2SA1576A
	D 4301,4304,4306,4308		1SS352
	D 4312		RB521S-40
	D 4316		1SS352

MISCELLANEOUS

	L 4301,4302	CHIP BEEDS FILTER	BTX1039
	L 4304	CHIP BEEDS FILTER	BTX1042
	L 4305	INDUCTOR	BTH1111
	L 4306	CHIP COIL	BTH1126

RESISTORS

	R 4304,4305,4308,4316		RS1/8SQ0R0J
	R 4325		RS1/16SS3901F
	R 4326		RS1/16SS1003D
	R 4327		RS1/16SS2202F
	R 4340		RS1/16SS2201F
	R 4343		RS1/16SS4701F
	R 4344		RS1/16SS5101F
	R 4345		RS1/16SS2701F
	R 4346		RS1/16SS1501F
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 4301,4305,4308		CKSRYB105K10
	C 4303		CKSRYB104K25
	C 4304		CKSSYB682K25
	C 4306,4331		BCG1064
	C 4309,4310		CEHVAW330M25
	C 4311		ACG1147
	C 4313,4327		DCH1201
	C 4315,4316,4342,4343		DCH1165
	C 4347,4348,4352		CKSSYB104K10

Block Name: POWER_1 BLOCK(GC)

SEMICONDUCTORS

	IC 4402		BD8606FV
	IC 4404		NJM2846DL3-33
	Q 4404-4406		DTC124EUA
	Q 4407,4408		2SC4081
	Q 4409,4410		DTA124EUA
	Q 4413		UPA1917TE
	Q 4416-4418		SP8M4
	D 4402		1SS352
	D 4405-4407		RB060M-30

MISCELLANEOUS

	L 4401-4406	CHIP BEEDS FILTER	BTX1039
	L 4409-4411	INDUCTOR (2.8 UH)	ATH1243
	L 4413-4416	CHIP BEEDS FILTER	BTX1039

Mark	No.	Description	Part No.

RESISTORS

	R 4402,4412		RS1/8SQ0R0J
	R 4406,4438		RS1/16SS1203D
	R 4407,4425-4427,4441		RS1/16SS3302D
	R 4421		RS1/16SS5602D
	R 4429		RS1/16SS2702D
	R 4440		RS1/16SS1002D
	R 4442,4444,4445		RS1/16SS3302D
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 4401,4458		CKSRYB104K16
	C 4403-4406,4409,4410		DCH1165
	C 4407,4455,4457		CKSRYB682K50
	C 4411		CCG1232
	C 4414		DCH1201
	C 4426		CKSSYB104K10
	C 4427,4465		CKSRYB105K10
	C 4435		CCSSCH470J50
	C 4436,4439		CKSSYB152K50
	C 4437		CCSSCH101J50
	C 4438		CCSSCH330J50
	C 4440		CKSSYB682K25
	C 4441		CKSSYB221K50
	C 4447,4448,4451,4452		BCG1059
	C 4454		CKSRYB334K10
	C 4462-4464,4466-4468		BCG1059

Block Name: POWER_2 BLOCK(GC)

SEMICONDUCTORS

	IC 4601		LTC3407EMSE-2
	IC 4603,4604,4606		NJM2846DL3-18
	Q 4601,4618		RSS090P03
	Q 4603,4619		UPA1917TE
	Q 4604,4606,4608,4617		2SC4081
	Q 4605		DTC124EUA
	Q 4609,4610,4612		RN1902
	Q 4613		RSS100N03
	Q 4614,4615		RTQ045N03
	Q 4616		RTQ040P02
	D 4603,4608,4612		1SS352
	D 4609,4610		RB551V-30

MISCELLANEOUS

⚠	L 4601	CHIP BEEDS FILTER	BTX1039
	L 4602,4603	CHIP INDUCTOR (2.2 UH)	ATH1244
	L 4604,4605	CHIP BEEDS FILTER	BTX1042

RESISTORS

	R 4601,4604,4606,4607		RS1/8SQ0R0J
	R 4609,4610,4612-4617		RS1/8SQ0R0J
	R 4649-4652,4655,4683		RS1/8SQ0R0J
	R 4659		RS1/16SS1503D
	R 4663		RS1/16SS1003D
	R 4666		RS1/16SS2003D
	R 4667		RS1/16SS6202D
	R 4687,4688		RS1/8SQ0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

	C 4602,4604,4615,4621		CKSSYB104K10

Mark	No.	Description	Part No.
	C 4606,4609,4654		CKSRYB105K10
	C 4610,4612		BCG1059
	C 4616,4617		CCSSCH470J50
	C 4618		CKSSYB103K16
	C 4620,4645,4648		CCSSCH101J50
	C 4623,4626,4634,4649		CKSSYB104K10
	C 4628,4638,4640,4641		DCH1201
	C 4656		DCH1201

Block Name: VDEC BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4701		HY57V641620FTP-6
	IC 4702		CM0048BF
	Q 4701,4702		2SA1576A

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4701	CHIP BEEDS FILTER	BTX1042
	L 4702,4703	COIL	LCYC6R8K2125
	L 4706-4708	CHIP BEEDS FILTER	BTX1042
⚠	F 4701	INDUCTOR	CTF1557
⚠	X 4701	CRYSTAL (28.63636 MHz)	ASS1214

RESISTORS

Mark	No.	Description	Part No.
	R 4702,4703		RS1/8SQ0R0J
	R 4710,4720		RS1/16SS1500F
	R 4711,4721		RS1/16SS2201F
	R 4712,4722		RS1/16SS1101F
	R 4713,4715,4723		RS1/16SS2701F
	R 4714		RS1/16SS1001F
	R 4726,4737-4745		RAB4CQ470J
	R 4746-4752		RAB4CQ101J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4701,4704-4706,4710		CKSRYB105K10
	C 4702,4703		CCSRCH300J50
	C 4707-4709,4712,4718		CKSSYB103K16
	C 4711		CKSRYB105K10
	C 4713,4717		CCSSCH330J50
	C 4714,4719		CCSSCH680J50
	C 4715,4716		CKSSYB102K50
	C 4720		CKSSYB103K16
	C 4721		CEHVAW101M6R3
	C 4722-4736,4738-4774		CKSSYB104K10
	C 4737,4793-4797		DCH1201
	C 4787		CKSSYB104K10
	C 4792		DCH1165

Block Name: ADCC BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4801		AD9985KSTZ-110

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4801,4802	CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No.	Description	Part No.
	R 4804		RS1/16SS2701F
	R 4805-4808		RS1/16SS470J
	R 4809-4814		RAB4CQ560J
	R 4815		RAB4CQ103J
	Other Resistors		RS1/8SQ###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4801		CKSSYB823K10
	C 4802		CKSSYB822K16
	C 4803-4805,4807,4809		CKSSYB104K10
	C 4806,4808,4810		CKSSYB473K16
	C 4811-4817		CKSSYB104K10
	C 4818-4820		DCH1201

Block Name: HDMI_RX BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 4901		SII9135ACTU
	Q 4902		DTC124EUA
	Q 4903		2SC4081
	Q 4904-4907,4914		UMD2N
	Q 4908		RN1902
	Q 4910		2SA1576A
	Q 4913		HN1C01FU
	D 4901		RB520S-30

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 4901-4905	CHIP SOLID INDUCTOR	QTL1013
	L 4906,4907	CHIP BEEDS FILTER	BTX1042
	F 4901,4902	CHIP FERRITE BEADS	ATF1211
⚠	X 4901	CRYSTAL (28.322 MHz)	ASS1226

RESISTORS

Mark	No.	Description	Part No.
	R 4944		RAB4CQ100J
	R 4945-4954		RAB4CQ680J
	R 4976-4979		ACN1275
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 4901-4928,4932,4933		CKSSYB102K50
	C 4929		CKSSYB103K16
	C 4930,4931		CCSSCH8R0D50
	C 4934,4937-4940		CKSSYB104K10
	C 4936,4941,4946,4951		DCH1201
	C 4942-4945,4947-4950		CKSSYB104K10
	C 4952-4960		CKSSYB104K10

Block Name: HDMI_SW BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 5001		CXB1444R
	IC 5002-5004		BR24L02FV-W
	Q 5007-5009		UMD2N
	Q 5011-5013		RN1902
	D 5004-5006		UDZS6R8(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	F 5001,5002	CHIP SOLID INDUCTOR	DTL1041
	JA 5001-5003	HDMI CONNECTOR	AKP1318

RESISTORS

Mark	No.	Description	Part No.
	R 5006		RAB4CQ0R0J
	R 5058		RS1/16SS4701F
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 5001		BCG1059
	C 5003-5007,5009-5013		CKSSYB104K10
	C 5014		DCH1201
	C 5015,5016,5018,5019		CKSSYB104K10

Block Name: AV_SW BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 5101		R2S11006FT

Mark	No.	Description	Part No.
	MISCELLANEOUS		
	L 5101	CHIP BEEDS FILTER	BTX1042
	RESISTORS		
	R 5191		RS1/8SQ0R0J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
	C 5105,5131		DCH1201
	C 5110-5112,5138-5143		CKSRYB105K10
	C 5132-5136		CKSSYB104K10
	C 5137		DCH1165
	Block Name: RGB_SW BLOCK(GC)		
	SEMICONDUCTORS		
	IC 5501		R2S11001FT
	Q 5537		2SA1576A
	MISCELLANEOUS		
	L 5501	CHIP BEEDS FILTER	BTX1042
	RESISTORS		
	R 5513		RAB4CQ101J
	R 5554		RAB4CQ0R0J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
	C 5510-5515		CKSRYB105K10
	C 5516-5518		CCSSCH221J50
	C 5541-5546,5549-5556		CKSSYB103K16
	C 5547,5548		CCSSCH680J50
	C 5557-5559,5561,5562		CKSSYB104K10
	C 5560,5591		DCH1201
	Block Name: MSP BLOCK(GC)		
	SEMICONDUCTORS		
	IC 5801		MSP5651M-QK-C3
	IC 5911		NJM4565V
	IC 5971		BH3544F
	Q 5801,5971		2SC4081
	Q 5866		DTC124EUA
	D 5807,5808		UDZS8R2(B)
	D 5866		1SS301
	MISCELLANEOUS		
⚠	X 5801	CRYSTAL (20.25 MHz)	ASS1217
	RESISTORS		
	R 5822,5823		RAB4CQ471J
	R 5993-5995		RS1/8SQ0R0J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
	C 5801-5804,5807-5814		CKSRYB105K10
	C 5815,5835,5836		CCG1205
	C 5817,5841		CKSSYB473K16
	C 5818,5842,5844,5846		CKSSYB103K16
	C 5824,5861,5864,5865		CCSSCH560J50
	C 5843,5845,5847,5855		DCH1201
	C 5851,5853,5911,5912		DCH1165
	C 5852,5854,5856,5859		CKSSYB103K16
	C 5857		CCSSCH9R0D50
	C 5858		CCSSCH100D50

Mark	No.	Description	Part No.
	C 5860,5862,5871,5873		DCH1201
	C 5863,5870,5872,5874		CKSSYB103K16
	C 5875,5877,5886,5888		DCH1201
	C 5876,5878,5885,5887		CKSSYB103K16
	C 5913		CKSSYB102K50
	C 5921,5922,5978		DCH1201
	C 5923,5924		CCSSCH150J50
	C 5971,5972,5980		CKSRYB105K10
	C 5977		CKSSYB104K10
	C 5979		CEHVAW470M6R3
	Block Name: A_TUNER BLOCK(GC)		
	SEMICONDUCTORS		
	Q 5304,5305		2SA1576A
	Q 5306		HN1B04FU
	Q 5307		HN1C01FU
	MISCELLANEOUS		
	L 5301	CHIP BEEDS FILTER	BTX1042
	L 5302,5303	CHIP COIL	BTH1121
	F 5301-5304	FERRITE CORE	VTF1080
⚠	U 5301	FRONTEND	AXF1180
	RESISTORS		
	R 5304		RS1/8SQ0R0J
	R 5306,5307		RS1/10SR331J
	R 5360,5361,5364-5366		RS1/10SR0R0J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
	C 5303		BCG1064
	C 5305,5307,5311,5323		DCH1201
	C 5309		CKSSYB104K10
	C 5314,5315,5331,5332		CCSSCH100D50
	C 5322		CKSRYB682K50
	Block Name: VBI_SLICER BLOCK(GE)		
	SEMICONDUCTORS		
	IC 5701		TC90173FG
	D 5701		HSM107S-E
	MISCELLANEOUS		
	L 5701,5702	CHIP BEEDS FILTER	BTX1042
	RESISTORS		
	R 5701		RS1/8SQ0R0J
	R 5714,5715		RAB4CQ151J
	R 5716		RAB4CQ101J
	Other Resistors		RS1/16SS###J
	CAPACITORS		
	C 5701		CKSRYB474K10
	C 5704		CCSSCH680J50
	C 5705-5712,5715-5720		CKSSYB104K10
	C 5714		DCH1201
	Block Name: USB BLOCK(GE)		
	SEMICONDUCTORS		
	IC 6401		M66596FP
	IC 6402		TC74LCX32FTS1
	IC 6403,6404		TC74LCX245FTS1
	MISCELLANEOUS		
	L 6401-6403	CHIP BEEDS FILTER	BTX1042
⚠	X 6401	CRYSTAL RESONATOR	BSS1131

RESISTORS

Mark	No.	Description	Part No.
	R 6401-6403		RS1/8SQ0R0J
	R 6408		RS1/16SS5601F
	R 6410		RAB4CQ103J
	R 6411-6420		RAB4CQ101J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6401		CCSSCH150J50
	C 6402		CCSSCH220J50
	C 6403-6410,6412,6414		CKSSYB104K10
	C 6411,6413		DCH1201

Block_Name: AV_IO_0 BLOCK(GE)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 7401	9P PIN JACK	AKB1319
	JA 7402	3P 4PIN MINIDIN (S)	AKP1280

RESISTORS

Mark	No.	Description	Part No.
		All Resistors	RS1/10SR####F

CAPACITORS

Mark	No.	Description	Part No.
	C 7401-7403		CKSSYB473K16
	C 7404-7409		CKSSYB103K16
	C 7410-7415		CKSSYB102K50
	C 7416-7421		CKSRYB105K10

Block Name: AV_IO_1 BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 7502		UMD2N
	Q 7505,7506		2SD2114K

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	F 7501-7503	INDUCTOR	CTF1557
	JA 7501	9P PIN JACK	AKB1330
	JA 7503	MINI JACK (4P)	AKN1073

RESISTORS

Mark	No.	Description	Part No.
	R 7501		RS1/10SR151J
	R 7503		RS1/10SR0R0J
	R 7515-7520		RS1/10SR75R0F
	R 7527,7528		RS1/10SR221J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7501-7506		CKSRYB105K10
	C 7507,7508,7534-7536		CKSSYB471K50
	C 7513,7514		CKSSYB104K10
	C 7515,7516		CCG1205
	C 7517		ACH1454

Block Name: ARIA_0 BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 6501		PD6568A

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 6501-6503	CHIP BEEDS FILTER	BTX1042
	L 6504,6505	CHIP BEEDS FILTER	BTX1039
	L 6506-6509	INDUCTOR	LCYC1R0K1608
⚠	X 6501	CRYSTAL (27 MHz)	ASS1225

RESISTORS

Mark	No.	Description	Part No.
	R 6501-6504		RS1/8SQ0R0J
	R 6506		RAB4CQ220J
	R 6514,6515		RAB4CQ103J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6501,6504-6513,6518		CKSSYB104K10
	C 6502,6514,6523		DCH1201
	C 6503,6515,6516		CKSSYB102K50
	C 6517		CCG1232
	C 6519-6522,6524		CKSSYB102K50
	C 6525-6528		CKSSYB104K10
	C 6576		CCSSCH100D50
	C 6577		CCSSCH120J50
	C 6578,6580-6587		CKSRYB105K10
	C 6589-6608,6610-6614		CKSRYB105K10

Block Name: ARIA_1 BLOCK(GC)

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 6601	CHIP BEEDS FILTER	BTX1042
⚠	F 6601-6616	FERRITE BEADS ARRAY	ATF1228

RESISTORS

Mark	No.	Description	Part No.
	R 6603,6604,6607		RS1/16SS2201F
	R 6609-6611		RS1/16SS2201F
	R 6613-6627,6629		RAB4CQ101J
	R 6628		RAB4CQ330J
	R 6630		RAB4CQ220J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6615		DCH1201
	C 6616-6629		CKSSYB104K10
	C 6632		CCSSCH221J50
	C 6634		CKSRYB105K10

Block Name: ARIA_DDR BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
NSP	IC 6701		AGC1091
	IC 6702-6704		EDD1232ABBH-5C-E

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 6701-6703	CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No.	Description	Part No.
	R 6745-6780		RAB4CQ470J
		Other Resistors	RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6701-6707		CKSSYB104K10
	C 6708,6710,6712,6714		DCH1201
	C 6718		CKSSYB103K16
	C 6722-6745		CKSRYB105K10

Block Name: IF_UCOM BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 6801		PST3628UR
	IC 6802,6803		TC74VHC126FTS1
	IC 6805		TC74VHC08FTS1
NSP	IC 6811		AGC1086
	IC 6951		MAX3232CPW
	Q 6812,6813,6819,6820		DTC124EUA
	Q 6901		UMD2N
	D 6803		1SS352

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	X 6801	CERAMIC OSCILLATOR	CSS1616
⚠	X 6802	CRYSTAL OSCILLATOR	ASS1212

RESISTORS

Mark	No.	Description	Part No.
	R 6802,6806		RS1/8SQ0R0J
	R 6880,6885		RAB4CQ103J
	R 6883		RAB4CQ473J
	R 6884		RAB4CQ471J
	R 6961		RAB4CQ101J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 6801		CKSSYB102K50
	C 6802		CKSSYB472K16
	C 6803,6804		CKSSYB471K50
	C 6805,6806		CCSSCH8R0D50
	C 6807,6809,6811		CKSSYB104K10
	C 6808,6812		DCH1201
	C 6810		CKSSYB103K16
	C 6814-6818,6820,6821		CKSSYB104K10
	C 6951-6955		CKSSYB104K10

Block Name: EMMA2 BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7002		TC74VHC08FTS1
	IC 7003		UPD61123F1-100KA3A
	IC 7004		BR24L64F-W
	IC 7005		TC7WHU04FU
	IC 7006		TC74HC4066AFT
	Q 7001		2SJ461A
	Q 7002,7003,7006		DTC124EUA
	Q 7005,7008		SSM6N17FU
	Q 7007,7010		UMD2N

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7001-7003	CHIP BEEDS FILTER	BTX1042
	F 7001	FERRITE CORE	VTF1091
⚠	X 7001	CRYSTAL (27 MHz)	ASS1225

RESISTORS

Mark	No.	Description	Part No.
	R 7026-7028		RS1/16SS2000D
	R 7029,7036		RS1/16SS6200D
	R 7033		RS1/16SS3300D
	R 7035		RS1/16SS2200D
	R 7045,7067,7070,7073		RAB4CQ103J
	R 7060-7064,7066,7068		RAB4CQ101J
	R 7065,7075		RAB4CQ470J
	R 7069,7071,7083,7084		RAB4CQ101J
	R 7072		RAB4CQ221J
	R 7074		RAB4CQ103J
	R 7081		RAB4CQ222J
	R 7087-7091		RAB4CQ101J
	R 7109		RS1/8SQ0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7001,7003-7011		CKSRYB105K10
	C 7014		CKSSYB102K50
	C 7029,7030		CCSSCH120J50
	C 7031,7032		CCSSCH470J50
	C 7035-7040,7043		CKSSYB104K10
	C 7041,7044,7049		DCH1201
	C 7045-7048,7050,7051		CKSSYB104K10

Block Name: EMMA2_MEM BLOCK(GC)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7201		EDD5116AFTA-5B-E
NSP	IC 7202		AGC1090
	IC 7203		LP2995M

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7201	CHIP BEEDS FILTER	BTX1042

RESISTORS

Mark	No.	Description	Part No.
	R 7213		RS1/16SS1500F
	R 7243-7246,7257-7259		RAB4CQ101J
	R 7247-7254,7256		RAB4CQ220J
	R 7255,7267		RAB4CQ103J
	R 7260,7261,7268-7270		RAB4CQ560J
	R 7262,7272-7275		RAB4CQ101J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7201		CKSRYB105K10
	C 7202-7204		BCG1059
	C 7205,7206,7225		DCH1201
	C 7207-7221,7223		CKSSYB104K10
	C 7226		CEHVAW331M6R3

Block Name: DP_TX BLOCK

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 7601		S25FL016A0LMF013
	IC 7602		GM60028H-CG
	IC 7603		GMT2404HROM

MISCELLANEOUS

Mark	No.	Description	Part No.
	L 7601,7602	CHIP INDUCTOR	ATH1254
	L 7603-7605	CHIP BEEDS FILTER	BTX1042
	F 7601-7603	CHIP FERRITE BEADS	ATF1211
	JA 7601	DP CONNECTOR	AKP1340
⚠	X 7601	CRYSTAL (27 MHz)	ASS1225

RESISTORS

Mark	No.	Description	Part No.
	R 7604		RS1/8SQ0R0J
	R 7645		RS1/10SR2490F
	R 7649-7657,7662		RS1/16SS10R0F
	R 7658		RAB4CQ0R0J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 7601,7608-7614,7616		CKSSYB104K10
	C 7602		CKSSYB471K50
	C 7603		BCG1059
	C 7604,7605		CCSSCH120J50
	C 7606,7607,7617,7619		DCH1201
	C 7618,7621,7624-7627		CKSSYB104K10
	C 7620,7639		DCH1201
	C 7629-7638,7640-7650		CKSSYB104K10

Unit Name: FRONT_HDM_USB ASSY(GC MR)

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	L 7301,7302	CHIP BEEDS FILTER	BTX1042
	JA 7303	USB CONNECTOR	VKB1248
	CN 7304	CONNECTOR	AKM1291

CAPACITORS

Mark	No.	Description	Part No.
	C 7301		ACH1421

Unit Name: LED ASSY(EU MR)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D 9401		SML-521MDW
	D 9402		TLRV1022
	D 9403		SMLE12BC7T(NP)

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	L 9408-9410	CHIP SOLID INDUCTOR	QTL1013
	CN 9402	L-PLUG (6P)	KM200NA6L

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/10SR###J

CAPACITORS

Mark	No.	Description	Part No.
	C 9404,9406,9407		CKSSYB103K16

Unit Name: FRONT IO ASSY(EU MR)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	IC 8501		BR24L01AFJ-W
	IC 8502		TC74VHC08FTS1
	Q 8501		DTC124EUA
	Q 8502-8504		2SC4081
	D 8507		1SS301
	D 8508		UDZS5R1(B)

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 8501	PIN JACK (3P)	AKB1303
	JA 8503	MINI JACK	AKN1085
	CN 8501	FFC CONNECTOR 26P	AKM1441
	CN 8503	15P D-SUB SOCKET	AKP1214

RESISTORS

Mark	No.	Description	Part No.
	R 8501,8508		RST1/2SP120J
	R 8506,8510-8512		RS1/10SR75R0F
	R 8514		RAB4CQ473J
	R 8515,8516		RAB4CQ101J
	R 8517		RAB4CQ222J
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 8501,8510-8512		CKSRYB105K10
	C 8502,8509		CKSSYB104K10
	C 8503,8504,8513,8514		CKSSYB102K50
	C 8507,8508		ACH1454
	C 8515		CKSRYB104K16

Unit Name: KEY ASSY(EU MR)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	Q 9401		HN1B04FU
	TH 9401		TH05-3H103F

MISCELLANEOUS

Mark	No.	Description	Part No.
⚠	L 9401-9406	CHIP SOLID INDUCTOR	QTL1013
	S 9401-9406	PUSH SWITCH	CSG1155
	CN 9401	L-PLUG (7P)	KM200NA7L

RESISTORS

Mark	No.	Description	Part No.
	R 9407		RS1/10SR4701F
	Other Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 9409		CKSSYB103K16
	C 9410,9411		CKSSYB104K10

Unit Name: REAR IO ASSY(GC MR)

SEMICONDUCTORS

Mark	No.	Description	Part No.
	D 8601		1SS301

MISCELLANEOUS

Mark	No.	Description	Part No.
	JA 8602	JACK	VKB1159
	CN 8602	FFC CONNECTOR 9P RA	AKM1381
	CN 8603	9P D-SUB SOCKET	AKP1213

RESISTORS

Mark	No.	Description	Part No.
	All Resistors		RS1/16SS###J

CAPACITORS

Mark	No.	Description	Part No.
	C 8604		CKSSYB471K50